CLASS 280, LAND VEHICLES

SECTION I - CLASS DEFINITION

This class includes vehicles, adapted to travel on land and not elsewhere classified. The term "vehicle" includes some form of running gear as an essential element, which running gear usually supports a load carrier, but may support a load directly, and adapts the vehicle to move over a surface. The basic purpose of those devices commonly called vehicles is the carrying of a load, either freight or passengers, from one place to another. The idea of towing a load, as by locomotives, traction engines, or tractors, has also long been associated with the term "vehicle."

(1) Note. The term "vehicle" also includes devices that are for special purposes identical with those in which a form of running gear is an essential element, and further includes such attachments for vehicles as are not limited in their position to any particular part of the vehicle.

(2) Note. This class includes the combination between running gear and load carriers not otherwise classified.

(3) Note. The running gear of various portable machines is also included when the machine is not claimed or is claimed by name only and the running gear is capable of general use. However, when the claimed running gear is solely disclosed for an agricultural, earth working, or harvesting implement, proper classification is in the appropriate agricultural, earth working, or harvesting implement class, even without specific claimed limitations of such agricultural, earth working, or harvesting implement. See the class definition (Class 280), EARTH OR TRAVELED SURFACE, TRAVERSING AND WORKING OR TREATING DEVICES, and also subclass 400 herein, the (1) Note, directed to an articulated vehicle or plural interconnected vehicles (i.e., a vehicle train).

(4) Note. The relationship of vehicles which are primarily intended for transportation purposes to working devices of various types, which may or may not travel while performing their primary function, and to various related arts is discussed in the following search notes presented in the sequence of the following "OUTLINE OF NOTES".

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

Where the articulated vehicle is solely disclosed for use in an earth working or harvesting environment, the proper classification is in Class 172, Earth Working,. No specific recitation in the claims of an earth working implement or harvester is necessary to cause an assignment in Class 172. Thus, where the articulative feature is disclosed solely in the performance of an earth working or harvesting operation, the body of art is not collected in Class 280. See (3) Note in the Class Definition above

See References To Other Classes, below, for classes related to the following art areas:

A. COMBINED WITH EXTERNAL MEANS OR DEVICES:

1. Remote control;

2. With external loading or unloading means;

3. With rails or tracks

B. CONVERTIBLE:

1. To nonvehicular devices: (a. To work platforms; b. Miscellaneous);

2. To different types of vehicle

This class (Class 280) provides for general utility land vehicles having both wheels and runners; for velocipedes convertible to or from plural occupant forms; for velocipedes convertible to or from occupant propulsion; for miscellaneous convertible velocipedes; for general utility wheeled land vehicles convertible to nonvehicular devices; for vehicles convertible to work platforms including means interposed between the vehicle body, chassis, or frame and running gear thereof for altering height or levelness or including vertical adjustment of a wheel upon the running gear; for tiltable, handle-propelled wheeled vehicles convertible to devices having no load transporting function; or miscellaneous convertible articulated vehicles. See Subclass References to the Class, below, for references to these areas.

C. EARTH OR TRAVELED SURFACE TRAVERSING AND WORKING OR TREATING DEVICES:

These devices commonly perform their main function of physically treating or affecting the surface while traveling and are equipped with running gear generally equivalent to the vehicular type. Portable or transportable machines having proximate function unrelated to transporting, supporting, or handling material or distributing material during traverse are seldom included in this class (Class 280), but will be found in the class appropriate to the type of work performed, e.g., agitating, ironing, comminuting, etc. However, subcombinations pertaining to the running gear of various art devices may be classified in Class 280 if of general utility.

D. SELF LOADING AND/OR UNLOADING VEHICLES AND PORTABLE MATERIAL HANDLING DEVICES

1. Traversing type. The load is usually distributed over or gathered from the area traversed by the vehicle;

2. Miscellaneous. These devices include vehicles which are loaded or unloaded while stationary also handling mechanisms which are ordinarily used to perform their chief function while stationary, running gear being provided for convenience in moving the device from place to place.

E. VEHICLE TYPES OTHERWISE CLASSIFIED

1. Water;

2. Rail;

3. Motor;

4. Receptacle and support types. The distinction between receptacles and supports provided with wheels and land vehicles has not been clearly established, and many warehouse and factory type trucks and work supports will be found in Class 280, Land Vehicles, and in the classes in References To Other Classes, below, that reference this section, without any stated line or perceptible distinction;

F. VEHICLE PARTS, INSTALLATIONS, ATTACHMENTS AND FURNISHINGS

1. Bodies;

2. Wheels;

3. Miscellaneous

SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.188, and 7.1+ for miscellaneous convertible velocipedes.

7.12+, and 8+ for vehicles having both wheels and runners.

7.16, for those vehicles convertible to or from plural occupant forms.

7.17, for those vehicles convertible to or from occupant propulsion.

30+, for miscellaneous convertible to nonvehicular forms.

43+, for vehicles convertible to work platforms by vertical adjustment of the running gear.

47.18, for handle-propelled vehicles convertible to wheeled devices having no load transporting function.

400, see the search notes for vehicle-related classes.

415.1, for miscellaneous convertible articulated vehicles.

840, for vehicles convertible to work platforms by body leveling.

SECTION IV - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

5, Beds, subclasses 625+ for field stretchers. (Vehicle Types Otherwise Classified, Miscellaneous)

5, Beds, subclass 9 for berths and bunks; 94, for automobile cribs; and 118+, for vehicle attached beds. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

14, Bridges, subclass 72 for unattached gangways.

15, Brushing, Scrubbing, and General Cleaning, subclasses 78+ for street sweepers; and 340, for vacuum sweepers having vehicular features. (Earth or Traveled Surface, Traversing and Working or Treating Devices)

15, Brushing, Scrubbing, and General Cleaning, subclass 312 for ambulant air draft cleaners with fixed guide. (Vehicle Types Otherwise Classified, Rail Vehicles)

15, Brushing, Scrubbing, and General Cleaning, subclass 340 for self propelled vacuum cleaners. (Vehicle Types Otherwise Classified, Motor vehicles)

16, Miscellaneous Hardware, subclasses 97+ for wheel mounts for panel hangers, travellers and/or tracks; and 107, for wheels therefor. (Combined With External Means or Devices, With rails or tracks)

16, Miscellaneous Hardware, subclasses 97+ and 107 for wheel mounts and wheels for panel hangers, travelers or tracks. (Vehicle Types Otherwise Classified, Rail vehicles)

16, Miscellaneous Hardware, subclasses 18+ for casters and 107, for wheels for traveling panels. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

27, Undertaking, subclass 27 for casket carriers. (Vehicle Types Otherwise Classified, Miscellaneous)

37, Excavating, appropriate subclasses, especially 4+ for self-loading vehicles, 196+ for automobile mounted roadway snow excavators and 124+ for wheeled scoops. (Earth or Traveled Surface, Traversing and Working or Treating Devices)

52, Static Structures (e.g., Buildings), subclasses 111+ for mechanism operated transportable towers. (Convertible, To nonvehicular devices, To work platforms)

52, Static Structures (e.g., Buildings), subclasses 111+ for extensible or movable portable towers, and subclass 143 for a building with a transportation feature, and see the reference to Class 105 in the class definition of that class. (Vehicle Types Otherwise Classified, Receptacle and support type)

56, Harvesters, subclasses 10.1+ for a harvester driven by a motor or tractor; 253+, 258+, 269+, and 272+, for wheeled cutters; and 380+, 384+, and 396+, for wheeled horse rakes, subclasses 6+ for multiple trailing or ganged machines. (Earth or Traveled Surface, Traversing and Working or Treating Devices)

56, Harvesters, subclasses 10.1+ for a harvester driven by a motor or tractor. (Vehicle Types Otherwise Classified, Motor vehicles)

56, Harvesters, subclass 322 for grain wheels and casters for harvesters. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

56, Harvesters, subclasses 208+ for a platform adjustments.

60, Power Plants, and see search notes in main class definition for other motors and engines. (Vehicle Types Otherwise Classified, Motor vehicles)

60, Power Plants, see main class definition for search notes on motors and engines. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

70, Locks, subclasses 259+ for locks for spare wheels.

89, Ordinance, subclass 40 for field ordinance mounts. (Convertible, To nonvehicular devices, To work platforms)

102, Ammunition and Explosives, subclass 384 for drop bombs with direction controlling means. (Combined With External Means or Devices, Remote control)

104, Railways, for combined tracks and railway rolling stock. (Combined With External Means or Devices, With rails or tracks)

104, Railways, for rail vehicles combined with tracks. (Vehicle Types Otherwise Classified, Rail vehicles)

104, Railways, subclass 44 for automobile turntables; and subclass 45, for portable turntables.

105, Railway Rolling Stock, subclass 27, 28, 161 and 455 for handling devices mounted on railway rolling stock. (Convertible, To nonvehicular devices, To work platforms)

105, Railway Rolling Stock, subclass 27 for self propelled power tools; 28, for locomotive type turntable carried power plant; 161, for mining machine trucks; 239+, for railway cars with dumping bodies; and 455 for railway cars with rotary turntable. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

105, Railway Rolling Stock. (Vehicle Types Otherwise Classified, Rail vehicles)

105, Railway Rolling Stock, subclasses 26.1+ for railway vehicle having a power plant for propulsion thereof. (Vehicle Types Otherwise Classified, Motor vehicles)

105, Railway Rolling Stock, subclasses 239+ for railway car dumping bodies; 314+, for railway sleeping cars; 327, for railway dining cars; 328, for merchandizing car bodies; 329.1+, for passenger car bodies; and 355+, for freight car bodies. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

108, Horizontally Supported Planar Surfaces, subclasses 44+ for a horizontal planar supporting surface supported on a vehicle. (Vehicle Parts,

Installations, Attachments and Furnishings; Miscellaneous)

111, Planting, appropriate subclasses for planters. (Earth or Traveled Surface, Traversing and Working or Treating Devices)

114, Ships, subclass 312 for external control of submarines; 21.1 for external control of torpedoes; and 144, for external control of ships. (Combined With External Means or Devices, Remote control)

114, Ships, subclasses 27+ for dumping and unloading scows. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

114, Ships, for boats. (Vehicle Types Otherwise Classified, Water)

123, Internal-Combustion Engines, see reference to Class 60, Power Plants, above. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

137, Fluid Handling, subclasses 899+ for fluid handling apparatus having a vehicle or part thereof as a support or casing.

152, Resilient Tires, and Wheels, especially subclasses 450+ for pneumatic tires. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

152, Resilient Tires and Wheels, subclasses 208+ for antiskid devices; and 416+, for tire inflating devices with vehicle carried supply. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

165, Heat Exchange, subclasses 44+ for a heat exchanger installed on a vehicle, and appropriate subclasses for a heat exchanger, per se. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

169, Fire Extinguishers, subclasses 24+ for fire engines. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

169, Fire Extinguishers, subclass 25 for wheeled water towers. (Vehicle Types Otherwise Classified, Receptacle and support type)

169, Fire Extinguishers, subclass 24 for fire engines; and 25 for wheeled water towers. (Vehicle Types Otherwise Classified, Miscellaneous)

172, Earth Working, subclasses 669+ and the subclasses there noted for earth working apparatus with a wheel or supported on a wheeled frame. (Earth or Traveled Surface, Traversing and Working or Treating Devices)

172, Earth Working, subclass 292 and the subclasses there noted for earth working apparatus with some specific propulsion means. (Vehicle Types Otherwise Classified, Motor vehicles)

180, Motor Vehicles, subclass 2.7 for a motor vehicle having its motor supplied from an external source; subclasses 167+ for a motor vehicle provided with means for controlling its operation which is responsive to electromagnetic radiation, magnetic force, or sound waves received from a source, or reflected from an object or surface, which is located apart from the vehicle; and subclass 401 for a motor vehicle having steering gear of the power assisted type and wherein the operation of the power steering is controlled by a terrestrial guide. (Combined With External Means or Devices, Remote control)

180, Motor Vehicles, appropriate subclasses for a land vehicle which is provided with a motor for propelling it. (Vehicle Types Otherwise Classified, Motor vehicles)

182, Fire Escape, Ladder, or Scaffold, subclasses 10+ for a fire escape car carrier with a stationary strand and subclasses 36+ for a track mounted device of that class. (Combined With External Means or Devices, With rails or tracks)

182, Fire Escape, Ladder, or Scaffold, subclasses 205+ for a fire escape car carrier with a stationary strand, subclasses 36+ for a track mounted device of that class. (Vehicle Types Otherwise Classified, Rail vehicles)

182, Fire Escape, Ladder, or Scaffold, appropriate subclasses for wheeled supports of that class. (Vehicle Types Otherwise Classified, Receptacle and support type)

182, Fire Escape, Ladder, or Scaffold, subclasses 63+ for a wheeled ladder, scaffold or escape with erection means. (Vehicle Types Otherwise Classified, Miscellaneous)

186, Merchandising, subclasses 27+ and 45+ for wheeled carriers for store and dining room service, respectively. (Combined With External Means or Devices, With rails or tracks)

186, Merchandising, subclasses 27+ and 45+ for wheeled carriers for store and dining room service, respectively. (Vehicle Types Otherwise Classified, Rail vehicles)

187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclasses 222+ for industrial fork lift trucks. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

188, Brakes, subclasses 2+ for vehicle brakes. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

190, Trunks and Hand-Carried Luggage, subclass 18, for articles of baggage provided with wheels where specific structure of the baggage item is claimed. (Vehicle Types Otherwise Classified, Receptacle and support type)

191, Electricity: Transmission to Vehicles. (Combined With External Means or Devices, With rails or tracks)

191, Electricity: Transmission to Vehicles. (Vehicle Types Otherwise Classified, Motor vehicles)

192, Clutches and Power-Stop Control, subclasses 30+ for clutches. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

198, Conveyors: Power Driven, subclasses 300+ and 506+ for a conveyor mounted on a vehicle. (Convertible, To nonvehicular devices, To work platforms)

198, Conveyors: Power-Driven, subclasses 300+ and 506+ for loading machine type conveyors. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

198, Conveyors: Power Driven, subclasses 300+ and 506+ for a conveyor mounted on a vehicle. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

206, Special Receptacle or Package, subclass 19.5 for vehicle attached special receptacles and packages. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

211, Supports: Racks, appropriate subclasses, for wheeled racks. (Vehicle Types Otherwise Classified, Receptacle and support type)

212, Traversing Hoists, subclass 312 for traveling bridge cranes and subclasses 71+ for over-head traversing hoists. (Combined With External Means or Devices, With rails or tracks)

212, Traversing Hoists, subclasses 301+ for auxiliary supports for traversing hoists. (Convertible, To nonvehicular devices, To work platforms)

212, Traversing Hoists, subclasses 180+ for hoists removably mounted on a vehicle; subclass 901, a collection of cross-referenced patents, for portable, dolley-type hoists or cranes; subclasses 328+ for a self-propelled carrier for an overhead hoist; and subclasses 343+ for surface type an overhead traversing hoists. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

212, Traversing Hoists, subclasses 316+ for traveling cranes and subclasses 71+ for overhead traversing hoists. (Vehicle Types Otherwise Classified, Rail vehicles)

212, Traversing Hoists, subclasses 180+ for a traversing hoist removably mounted on a vehicle; subclass 901, a collection of cross referenced patents, for ambulant dolley-type hoists or cranes; subclass 328 for self-propelled cable-trolley hoist; and subclasses 344+ for surface self-propelled traversing hoists. (Vehicle Types Otherwise Classified, Motor vehicles)

213, Railway Draft Appliances. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

221, Article Dispensing, subclass 185 for ambulant article dispensing devices. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

222, Dispensing, subclasses 608+ for ambulant dispensers. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

224, Package and Article Carriers, subclasses 539+ for package and article carriers with complementary body parts. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

224, Package and Article Carriers, subclasses 400+ for vehicle attached package and article carriers. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

237, Heating Systems, subclasses 12.1+ for combined heat and power plants for fire engines, vehicles, cars, etc. (Vehicle Types Otherwise Classified, Motor vehicles)

237, Heating Systems, subclass 12.3 for combined heat and power plants for vehicles; and 28+, for vehicle heating systems. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 130+ and 146+ for sprayers with ambulant discharge and supply; subclasses 722+ for sprayers with stationary supply and ambulant discharge; subclasses 650+ for a container for nonfluid material and means for scattering or strewing the material, in which the container may be ambulant. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

242, Winding, Tensioning, or Guiding, subclass 390.7, 391+, and 403+ for a reeling device mounted on a vehicle. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

242, Winding, Tensioning, or Guiding, subclass 390.7, 391+, and 403+ for a reeling device mounted on a vehicle. (Vehicle Types Otherwise Classified, Receptacle and support type)

242, Winding, Tensioning, or Guiding, subclasses 391+ for a trundle reel. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

244, Aeronautics, subclasses 75+ and the classes specified in the Notes thereto for apparatus and devices for controlling aircraft and other mobile craft. See subclasses 175+ and the classes specified in the Notes thereto for the classes which provide for the remote control by electrical means of aircraft and other vehicles and for a statement as to the lines between the classes. (Combined With External Means or Devices, Remote control)

244, Aeronautics, subclass 50 for aircraft propulsion and steering on land or water. (Convertible, To different types of vehicles)

244, Aeronautics, subclass 50 for aircraft propulsion and steering on water; 101, for amphibious landing gear; and 105+, for water landing gear. (Vehicle Types Otherwise Classified, Water)

244, Aeronautics, for aircraft. (Vehicle Types Otherwise Classified, Miscellaneous)

244, Aeronautics, subclasses 103+ for aircraft landing gear. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

248, Supports, appropriate subclasses, for wheeled supports, especially subclass 98, for wheeled golf bag stands; and 129 for wheeled receptacle stands. (Vehicle Types Otherwise Classified, Receptacle and support type)

248, Supports, subclasses 560+ for resilient supports; and subclasses 637+ for machinery supports. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 2+ for hoisting trucks; and subclasses 279+ and 323+ for vehicles supporting a load hauling or hoisting cable drum. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 418+ for attached vehicle jacks, including retractable ground supports and props. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

258, Railway Mail Delivery, for delivery to or from moving vehicles. (Combined With External Means or Devices, With external loading or unloading means)

258, Railway Mail Delivery, for material delivery to and from moving vehicles. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

261, Gas and Liquid Contact Apparatus, appropriate subclasses for carburetors. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

267, Spring Devices, subclasses 2+ for vehicle springs. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

267, Spring Devices, subclasses 2+ for resilient mountings for wheels. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

278, Land Vehicles: Animal Draft Appliances. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

291, Track Sanders. (Combined With External Means or Devices, With rails or tracks)

291, Track Sanders. (Earth or Traveled Surface, Traversing and Working or Treating Devices)

291, Track Sanders. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

291, Track Sanders. (Vehicle Types Otherwise Classified, Rail vehicles)

293, Vehicle Fenders, subclasses 102+ for vehicle bumpers. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

294, Handling: Hand and Hoist-Line Implements, subclasses 15+ for hand bars and hand barrows. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

295, Railway Wheels and Axles. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

296, Land Vehicles: Bodies and Tops, subclass 20 for wheeled stretchers for ambulances. (Combined With External Means or Devices, With external loading or unloading means)

296, Land Vehicles: Bodies and Tops, subclass 20 for wheeled ambulance stretchers. (Vehicle Types Otherwise Classified, Miscellaneous)

296, Land Vehicles: Bodies and Tops. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

297, Chairs and Seats, subclasses 1+ for a chair or seat convertible from wheel mounted to non-wheel mounted device by reorienting the chair or seat and subclasses 130+ for a chair or seat having alternately usable supporting devices, as wheels, rockers, suspending hangers and the like. (Convertible, To nonvehicular devices, Miscellaneous)

297, Chairs and Seats, subclasses 5+ for occupant propelled walker or skater frames having a seat, usable by the occupant intermediate periods of walking or skating. (Vehicle Types Otherwise Classified, Miscellaneous)

297, Chairs and Seats, appropriate subclasses for seat of general utility. This class (280) takes the combination of one or more seats and a vehicle. See the search notes in the class definition of Class 297 for the line. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

298, Land Vehicles: Dumping, for dumping vehicles of the land type. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

298, Land Vehicles: Dumping. (Vehicle Parts, Installations, Attachments and Furnishings; Bodies)

301, Land Vehicles: Wheels and Axles. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

305, Wheel Substitutes for Land Vehicles, for wheel substitutes, per se. Class 305 takes patents claiming a vehicle and wheel substitute combination, where the vehicle is only nominally recited in the claims. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

318, Electricity: Motive Power Systems, subclass 16 for electric motors for steering where a rudder or steering means is claimed broadly, with or without radio control of said motor. (Combined With External Means or Devices, Remote control)

362, Illumination, subclasses 459+ for vehicle lighting. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

368, Horology: Time Measuring Systems or Devices, subclasses 6+ for a vehicle responsive parking meter and subclasses 1+ for an horological device acted upon by a disparate device. (Combined With External Means or Devices, Remote control)

384, Bearings, appropriate subclasses for wheel bearings and journal boxes. (Vehicle Parts, Installations, Attachments and Furnishings; Wheels)

404, Road Structure, Process, or Apparatus, subclasses 101+ for road material distributors with treatment means. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Traversing type)

406, Conveyors: Fluid Current, subclass 185 for a wheeled article carrier adapted to be propelled through a tube by a fluid current. (Vehicle Types Otherwise Classified, Miscellaneous)

414, Material or Article Handling, subclasses 333 through 402 for the combination of a vehicle of the load transporting type and means external of the vehicle for loading or unloading the vehicle. (Combined With External Means or Devices, With external loading or unloading means)

414, Material or Article Handling, subclasses 595+ for an elevator or hoist and loading or unloading means therefor and wherein the elevator or hoist is on an inclined tracks. (Combined With External Means or Devices, With rails or tracks)

414, Material or Article Handling, subclasses 467+ for a self-loading or unloading vehicle. (Self Loading and/or Unloading Vehicles and Portable Material Handling Devices, Miscellaneous)

414, Material or Article Handling, subclasses 227+ for apparatus particularly adapted for charging or discharging a facility comprising one or more sites for the parking of wheeled vehicles. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

417, Pumps, subclasses 231+ for pumps attached to vehicles and actuated thereby. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

440, Marine Propulsion, for boats and ships combined with power plants for propulsion. (Vehicle Types Otherwise Classified, Motor vehicles)

441, Buoys, Rafts, and Aquatic Devices, subclasses 65+ for skimming and walking devices for use on water. (Vehicle Types Otherwise Classified, Water)

446, Amusement Devices: Toys, appropriate subclasses for wheeled toys. (Vehicle Types Otherwise Classified, Miscellaneous)

446, Amusement Devices: Toys, subclasses 97 through 99 , 111-114 and 201+ for wheeled toys.

454, Ventilation, subclasses 69+ for vehicle ventilation. (Vehicle Parts, Installations, Attachments and Furnishings; Miscellaneous)

472, Amusement Devices, subclasses 1+ for a skater support or walker vehicle restricted to a circuitous path, i.e., a roundabout, particularly subclasses 14+ for an occupant propelled roundabout. (Vehicle Types Otherwise Classified, Miscellaneous)

482, Exercise Devices, particularly subclasses 66+ for an occupant propelled support frame having movement facilitating feature, e.g., wheels, runners, etc., for foot travel. (Vehicle Types Otherwise Classified, Miscellaneous)

701, Data Processing: Vehicles, Navigation, and Relative Location, subclasses 1+ for vehicle indication, operation, or guidance which includes a computation. Note, where significant vehicle structure is recited, classification is in the appropriate vehicle class. (Combined With External Means or Devices, Remote control)

SUBCLASSES

1 This subclass is indented under the class definition. Vehicles not provided for in the subclasses hereunder.

1.12 This subclass is indented under subclass 828. Vehicles in which the object simulated is an aircraft.

SEE OR SEARCH THIS CLASS, SUBCLASS:

827, for aircraft simulations which are pushed by the occupant.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclasses 230+ for a toy aircraft having wheels.

1.13 This subclass is indented under subclass 827. Vehicles in which the object simulated is a living figure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.22, for figure simulating velocipedes which are adapted to be pushed along by the occupant.

200+, for occupant propelled vehicles in which the simulation is not claimed, and see the definition of subclass 827 for the line.

SEE OR SEARCH CLASS:

104, Railways, subclass 61 for simulated horses which progress along a track.

446, Amusement Devices: Toys, subclasses 269+ for a wheeled figure toy.

1.14 This subclass is indented under subclass 1.13. Vehicles in which means is provided for making a sound, usually simulating the cry of the creature represented.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclasses 270+ for a wheeled figure toy having sounder; subclass 297 for a figure toy having a sounder; subclasses 188+ for air operated sounders; and subclasses 397+ for other sounding toys.

472, Amusement Devices, particularly subclass 98 for a rockable, nonprogressing, animal simulation amusement device having rider seat means and including animal sound simulation.

1.16 This subclass is indented under subclass 1.13. Vehicles in which the simulation is that of the figure drawing a carriage.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclasses 275+ for a toy representing a vehicle and an external figure.

1.165 This subclass is indented under subclass 1.16. Vehicles in which the figure as a whole or parts of the figure are so connected with the remainder of the structure as to have relative movement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.201+, for figures having moving parts where no carriage is provided and where the rider's body does not move.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclass 99 for a rockable, nonprogressing, animal simulation amusement device having rider seat means and a relatively movable animal part.

1.167 This subclass is indented under subclass 1.165. Vehicles in which the legs of the figure move relative to the trunk of the figure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.204, for figure simulating velocipedes having moving legs but no carriage, the movement of the legs not being necessary to the movement of the vehicle.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclass 276 for a toy representing a vehicle and an external walking figure.

1.173 This subclass is indented under subclass 1.13. Vehicles having either or both (1) more than one simulated figure, or (2) more than one occupant support.

(1) Note. A composite figure having two sides each comprising a separate cut-out is regarded as a single figure if the sides are rigidly secured to each other or the same seat or framework.

SEE OR SEARCH THIS CLASS, SUBCLASS:

203, for nonsimulating occupant propelled vehicles with side car.

222, for nonsimulating occupant propelled vehicles having plural movable occupant supports.

231+, for nonsimulating vehicles propelled by plural occupants.

273, for nonsimulating occupant-propelled vehicles having one-wheel controlled steering and providing for plural occupants.

1.175 This subclass is indented under subclass 1.13. Vehicles which are mounted upon rockers so as to cause the vehicle to travel on a supporting surface, either by reason of plural rockers which may be extended or retracted relative to one another or by reason of brakes, rollers or swing arms applied to or cooperating with the rockers.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.193, for platform rocker type, rider-body-actuated velocipede type simulations.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclasses 95+ for a rockable, nonprogressing, animal simulation amusement device having rider seat means and which may travel backward and forward on a platform.

1.177 This subclass is indented under subclass 1.175. Vehicles having longitudinally spaced rockers constructed to move relative to each other so as to cause the vehicle to move along a supporting surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.181+, for figures which progress by transferring the weight from one swinging leg or support to another, the legs or supports not having rocker bottoms.

1.181 This subclass is indented under subclass 1.13. Vehicles which progress by advancing supporting means alternately either at opposite sides, as in walking (this subclass) or at opposite ends, as in galloping (indented subclasses), or which have an alternately advanced and retracted pusher.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1, for nonsimulating, nonwheeled, stepper type vehicles.

1.177, for similar figures which have rocker bottoms on the swinging supports, on which they rock forward and back as the supports swing.

218, for nonsimulation type wheeled vehicles having walking or galloping progression.

219, for nonsimulation type vehicles having an alternately advanced and retracted pusher.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 187 for a motor vehicle which includes one or more ski-like or runner members and wherein the vehicle is provided with at least one surface-engaging propulsion element and further wherein the element has a shuffling movement along the surface which supports it; and subclasses 8.1+ for a motor vehicle having a special driving device in the nature of a stepper.

446, Amusement Devices: Toys, subclass 316, 317, and 377 for a walking figure toy, and see the Search Notes under subclass 377 for other related loci.

1.182 This subclass is indented under subclass 1.181. Vehicles having supports attached to the occupant supporting portion at longitudinally spaced points and arranged to swing alternately. If the supports are provided with wheels, they have means to prevent retrograde movement, or they are driven positively by the relative movement of the supports.

1.183 This subclass is indented under subclass 1.182. Vehicles in which the relative spreading apart from and approach toward each other of the supports is brought about by the action of the rider's weight upon the saddle or the stirrups, the saddle or stirrups having relatively movable connection with the parts to be moved.

SEE OR SEARCH THIS CLASS, SUBCLASS:

218, for similarly driven wheeled vehicles which claim no simulation features.

1.184 This subclass is indented under subclass 1.182. Vehicles in which there is present some means, in addition to the two relatively approaching and separating supports to engage the ground or surface over which the vehicle moves, either to stabilize the figure, assist in propelling it, or impart a different type of motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.175, for progressing rocker type simulations having a similar ground engaging means.

1.188, for other velocipede type simulations convertible to have more than one kind of motion.

219, for nonsimulation vehicles propelled by means intermittently engaging the ground or floor.

1.186 This subclass is indented under subclass 1.13. Velocipede simulations in which the occupant is not seated on the figure in the manner in which a horse is ordinarily ridden.

(1) Note. Arrangements in which the occupant is supported within the figure, stands on it or is seated in a chair which does not take the place of the back of the figure or serve as a mere substitute for a saddle are included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.16+, for velocipede simulations in which the occupant is seated in a vehicle purporting to be drawn by the figure.

1.188 This subclass is indented under subclass 1.13. Vehicles in which the vehicle may be converted to a vehicle of the nonsimulating type because of the removability of the figure, or changed to a nonprogressive type, or in which the manner for causing progression may be changed or the vehicle or parts thereof may be made larger or smaller to suit occupants of different sizes.

(1) Note. Mere change in the adjustment of relatively movable linkages or springs to control the force necessary to be supplied is not included unless the point at which the rider's effort is applied is also changed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

7.15+, for convertible nonsimulating velocipede type vehicles which are occupant propelled.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclasses 95+ for a rockable, nonprogressing, animal simulation amusement device having rider seat

means and which may be convertible to another type of device.

1.189 This subclass is indented under subclass 1.13. Vehicles claimed in combination with auxiliary features such as brakes, rider mounting steps, velocipede pushing handles, props, fixed guides, etc., not essential to the primary function of the velocipedes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.14, for simulation type velocipedes combined with noise makers.

1.16+, for figure and carriage simulating velocipedes.

1.181+, for brakes designed to prevent retrograde motion of velocipedes which advance by alternately advancing and drawing together independently moving ground engaging means.

1.188, for simulation type vehicles having means for converting them to other forms or modes of operation.

264, for nonsimulating type occupant propelled vehicles having combined brakes and steering means.

288.4, for attachments, for occupant propelled vehicles, especially subclass 291 for steps.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclass 101 for a rockable, nonprogressing, animal simulation amusement device having rider seat means and combined with a disparate device.

1.191 This subclass is indented under subclass 1.13. Vehicles in which the advance of the vehicle along the ground is or may be accompanied by movement of the rider's body. The movement usually actuates the propelling mechanism or assists in actuating it, but it may be merely a bouncing movement on spring mounted saddles or figure parts which are unrelated to the propelling means of the velocipede.

(1) Note. Motion of merely the feet or arms of the rider is not included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.175+, for rocker type progression caused by body motion.

1.181+, for stepping or galloping type progression caused by body movement.

1.201+, for movable figure devices in which the occupant's body is not shifted.

226.1, for nonsimulating vehicles whose propulsion is actuated by the occupant's movable seat.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclasses 95+ for a rockable, nonprogressing, animal simulation amusement device having rider seat means.

1.192 This subclass is indented under subclass 1.191. Vehicles in which there is also movement of simulating portions of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.181+, for figure movement involving alternately advancing supports for causing progression.

1.201+, for figure movement without rider body movement.

1.193 This subclass is indented under subclass 1.192. Vehicles in which the movement of a rocker supported figure relative to a supporting platform is transmitted to progressing means for the platform.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.175+, for progressing rocker-mounted figure-simulating vehicles in which the rockers engage the ground or floor directly.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclasses 95+ for a rockable, nonprogressing, animal simulation amusement device having rider seat means and which may travel on a platform.

1.194 This subclass is indented under subclass 1.192. Vehicles having means which produce progression of the figure actuated by either the feet or the hands of the rider, through parts relatively movably connected to the propulsion system either as the primary actuating means or as an aid to rider body-actuation. In the former case, the figure must be interconnected to the propulsion mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:

221+, for nonsimulating velocipedes having a movable occupant support and additional propulsion means.

1.195 This subclass is indented under subclass 1.192. Velocipedes in which steering means comprising a single rigid member or a plurality of rigid members linked together passes through the moving figure body in such a way as to allow vertical movement of the body relative to the point at which the steering impulse is transmitted to the running gear of the velocipede.

SEE OR SEARCH THIS CLASS, SUBCLASS:

263+, for steering for occupant propelled vehicles generally.

771+, for occupant steered vehicles generally.

1.196 This subclass is indented under subclass 1.192. Vehicles in which the figure pivots about a horizontal axis extending through the chassis and through a fixed point in the central portion of the trunk of the figure, the motion of the rider's body being transmitted to a drive for the vehicle through the figure motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.175+, for rocking velocipedes which progress with the rockers in contact with the supporting surface.

1.193, for platform rocker type velocipedes.

1.201 This subclass is indented under subclass 1.13. Vehicles having the entire figure or body parts thereof, such as ears, tails, heads, legs, mounted so as to be movable relative to the base, running gear or other parts, usually for simulating their natural movement on the living animal. Movement to provide access openings is included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.165+, for carriage combined animal figures with movable body parts.

SEE OR SEARCH CLASS:

472, Amusement Devices, particularly subclass 99 for a rockable, nonprogressing, animal simulation amusement device having rider seat means and a relatively movable animal part.

1.202 This subclass is indented under subclass 1.201. Vehicles in which the foreparts of the figure are movably mounted for steering, being directly or indirectly connected to the turning portion of the running gear.

(1) Note. Either the head or feet, or both, may turn for steering (this subclass) or the entire forepart of the animal may be hinged to the body along a vertical line (indented subclass).

(2) Note. If the head is nonrigidly connected to the steering running gear, it must transmit the steering impulse.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.201, for heads relatively movably connected to independent steering mechanism. See (2) Note.

1.206, for rein steered figure velocipedes.

263+, for steering means for nonsimulating occupant propelled vehicles.

771+, for occupant steered vehicles generally.

1.203 This subclass is indented under subclass 1.202. Vehicles in which the steering body foreparts are hinged to the figure's body hindparts along a generally vertical line falling between the front and rear legs or supports of the figure.

1.204 This subclass is indented under subclass 1.201. Vehicles in which the legs move relatively to the trunk of the figure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1, for nonsimulating vehicles having walking supports without wheels.

1.167, for carriage-combined animal figures with relatively movable legs.

1.181+, for figures in which the legs support the figure on the ground or floor and have relative movement to cause the figure to progress as by walking or galloping.

1.192+, for leg movement which is part of the drive mechanism in rider body motion types or which serves to accommodate figure body motion to a running gear which has no corresponding motion.

218, for nonsimulating vehicles of the occupant-propelled type having alternately advancing wheeled supports.

1.206 This subclass is indented under subclass 1.13. Vehicles in which the propulsion of the vehicle or the turning of the wheels or supports for steering is caused by the rider's pulling on the reins.

(1) Note. In this subclass, the head does not turn relative to the body, but patents from subclasses 1.201+ are cross-referenced herein when the reins are relatively movably connected to the steering point, even though the head also turns.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.202+, for figures in which the head or foreparts turn relatively to the body, the steered ground engaging means usually being rigid with the head or forefeet. The head may be turned by pulling on the reins. See (1) Note.

1.207 This subclass is indented under subclass 1.13. Vehicles which are propelled or steered by movement of the rider's feet in stirrups attached to the figure.

(1) Note. The stirrups must be equivalent to the stirrups of a horse saddle to the extent of being movably suspended from the saddle or seat portion of the simulated figure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.183, for foot or saddle actuated galloping type velocipedes.

1.208 This subclass is indented under subclass 1.13. Velocipedes in which the figure is constructed as a shell or in which a solid body has been provided with one or more openings or cavities, usually to accommodate operating parts of the progressing mechanism.

(1) Note. Bodies having apertures to receive nonmoving parts which fit more or less closely therein are not considered to be hollow within the meaning of this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.195, for bodies having slots to permit rocking movement of the body relative to rigid or rigid link steering means passing therethrough.

1.21 This subclass is indented under subclass 1.1. Vehicles which simulate aircraft.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.12, for aircraft simulating velocipedes having occupant operated means for propulsion.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclasses 230+ for a toy aircraft having wheels.

1.22 This subclass is indented under subclass 827. Vehicles in which the simulation is that of a living figure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.13+, for velocipedes of this type having means operated by the occupant for propelling them.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclasses 97+ and 115+ for figure toys.

1.23 Attendant propelled:
This subclass is indented under subclass 827. Vehicles which additionally include devices particularly adapted for the pushing or pulling of the vehicle by a nonoccupant.

SEE OR SEARCH CLASS:
446, Amusement Devices: Toys, for hand pushed toys.

1.5 This subclass is indented under the class definition. A vehicle having a means adapted to engage the body of a walking attendant other than means adapted to be engaged by the hands or feet, the body engaging means being for the purpose of propelling the vehicle or sustaining some of the load carried by the vehicle.

(1) Note. An agricultural implement claimed by name only is considered a vehicle for purposes of this definition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47.11, for a vehicle wheel steered by a walking attendant.
47.17+, for handle propelled tiltable vehicles.
47.34+, for handle propelled stable vehicles.

SEE OR SEARCH CLASS:
54, Harness, for animal harness, per se.
172, Earth Working, subclass 353 for an earth working implement having a draft means or ground support and guided or propelled by a walking attendant and also having body engaging means.

2 This subclass is indented under subclass 29. Vehicles having a portion of the body or load supporting framework depending between the axles to form a portion of the running gear connections.

SEE OR SEARCH THIS CLASS, SUBCLASS:
43.11, for a vehicle having a vertically adjustable wheel the axis of which may be moved to a position above the load carrying surface of the vehicle.
47.23, for handle-propelled vehicles with similarly disposed body or load supporting framework.
6.151+, for a vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame for the proximate utility of facilitating cargo movement which may entail lowering the cargo support surface below the usual running gear level.

3 This subclass is indented under the class definition. Vehicles provided with means for rotating a wheel or wheels and operable from without the vehicle for propelling it.

SEE OR SEARCH THIS CLASS, SUBCLASS:
151, for auxiliary load starting attachments.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 96+ for railway rolling stock with wheel or axle drive, and especially subclass 129 for flange or axle grip tools.

4 This subclass is indented under the class definition. Vehicles specially adapted to carry ladders and fire-hose, commonly fire-fighting vehicles.

SEE OR SEARCH CLASS:
182, Fire Escape, Ladder, or Scaffold, subclasses 63.1+ for a vehicle mounted ladder with erection means and subclass 127 for a ladder with a land vehicle.

5.2 This subclass is indented under the class definition. Vehicles (1) constructed to permit its parts to be arranged for, or (2) having means combined therewith for ascending or descending steps or similar obstructions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30+, for miscellaneous convertible land vehicles.

5.22 This subclass is indented under subclass 5.2. Vehicles having endless traction elements (1) shiftably mounted from a normal tractive position to a second position angularly disposed on

the vehicle to contact the edge portion of a step or abutment to propel the vehicle while in upright position at an incline to the horizontal, or (2) which are designed to have one portion active while traveling horizontally and a second portion active while ascending or descending a step or abutment, or (3) which are auxiliary to the normal running gear to provide a secondary traction means operative only when ascending or descending steps or the like.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 9.1+ for a motor vehicle including a special driving device of endless track configuration.

305, Wheel Substitutes for Land Vehicles, appropriate subclasses for endless flexible track type wheel substitutes.

5.24 This subclass is indented under subclass 5.2. Vehicles having a plate-like surface or rollerway positioned on the vehicle and designed to engage the edge portion of the step or abutment to facilitate movement of the vehicle thereacross.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.32, for roller attachments providing a fulcrum support for a vehicle.

7.12, for wheeled velocipedes convertible to or from runner type.

8+, for miscellaneous vehicles provided with wheeled and runner type running gear.

5.26 This subclass is indented under subclass 5.2. Vehicles comprising a spider-like means pivotally mounted on a vehicle in position to permit the legs of the spider to engage the tread portions of successive steps or levels of a path.

SEE OR SEARCH CLASS:

305, Wheel Substitutes for Land Vehicles, subclasses 1+ for steppers.

5.28 This subclass is indented under subclass 5.2. Vehicles in which the running gear comprises spaced ground engaging portions, which portions are mounted for relative movement to permit variations in the relative vertical or horizontal distances between said portions to facilitate movement over a step or abutment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.15+, for a land vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame.

43+, for a wheeled land vehicle including vertically adjustable wheels for altering a dimension of the vehicle or a part thereof.

5.3 This subclass is indented under subclass 5.2. Vehicles having attached thereto mechanism adapted to react upon a tread surface to lift or lower the vehicle to or from the step or abutment.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling force, subclasses 418+ for miscellaneous vehicles having jacks attached thereto.

5.32 This subclass is indented under subclass 5.2. Vehicles having attached thereto a fulcrum means about which the vehicle may be tilted.

(1) Note. The fulcrum is usually provided with wheel means at its outer end to permit translatory movement of the vehicle on its attached fulcrum.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.12, for vehicles having rocker or fulcrum supports auxiliary to the wheels.

47.2, for auxiliary wheel attachments for two wheeled hand trucks or barrows.

5.5 SUSPENSION MODIFICATION ENACTED DURING TRAVEL (I.E., ACTIVE SUSPENSION CONTROL):

This subclass is indented under the class definition. Vehicle comprising a regulatable elastic means intermediate a vehicle body, chassis, or frame and ground engaging means thereof for supporting the weight of the vehicle body, chassis, or frame (i.e., sprung mass) upon the ground engaging means (e.g., axle, runner, ski, skid, sled, tire, unsprung mass, wheel, wheel assembly, wheel carrier) wherein the regulat-

able elastic means is caused to alter its elasticity property responsive to a force encountered while the vehicle is in surface traversing motion to control a handling or ride posture characteristic of the vehicle.

(1) Note. A named "vehicle suspension system or unit" responsive to a limitation, either expressly or inferentially claimed, representing a force associated with a traveling vehicle is properly classifiable herein whether or not mechanical parts (e.g., axle, control arm, linkage, pivot, runner, shock absorber, ski, skid, sled, spring, tire, wheel, wheel assembly, wheel carrier) constituting the regulatable elastic means or the ground engaging means are claimed.

(2) Note. A named "vehicle suspension system or unit", per se, lacking the limitation of responsiveness to a force associated with a vehicle in traveling motion is not properly classifiable herein. Thus, the feature of a "vehicle suspension system or unit" responding to a "load or loading condition", lacking a specific vehicular traversing motion limitation by either sole disclosure of dynamic loading experienced by the regulatable elastic means or explicit claim language, is not proper for classification in this or the indented subclasses but is provided for later in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.15+, for a general utility land vehicle including means interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame without vehicular traversing motion.

8+, for a vehicle having both wheel and runner support.

80.1+, for specific running gear associated with a general utility wheeled land vehicle, especially subclass 86.5 for an auxiliary axle assembly, subclasses 86.75+ for running gear provided with geometric or spatial alignment adjustment, or subclasses 124.1+ for a particular running gear suspension arrangement.

200+, for wheeled occupant-propelled-type land vehicle running gear, especially subclasses 274+ or 281.1+. Additionally, in accordance with the (2) Note of subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses.

400+, for running gear of an articulated vehicle or plural interconnected vehicles (i.e., vehicle train).

830+, wherein a vehicle frame is specially adapted to carry a tank or boiler, especially subclass 7 for means for leveling the tank or boiler portion responsive to an actual or incipient nonlevel condition.

845+, for a vehicle having a sliding engagement with the travel surface, especially subclass 25 which includes a spring support.

SEE OR SEARCH CLASS:

180, Motor Vehicles, appropriate subclasses, for a general utility self-propelled land vehicle including a feature as specified in Class 180 definition. Class 180 is superior to Class 280 in the class hierarchy.

188, Brakes, subclasses 2+ for a retarding or stopping mechanism employed upon a vehicle; or subclasses 266+ for a retarding or stopping mechanism employing an internal resistance medium.

267, Spring Devices, subclasses 2+ for a spring device employed upon a vehicle.

301, Land Vehicles: Wheels and Axles, appropriate subclasses, for specific wheel or axle construction. Class 301 is subordinate to Class 280 in the class hierarchy.

701, Data Processing: Vehicles, Navigation, and Relative Location, subclasses 37+ for computer controlled auxiliary automotive vehicle systems including active suspension control.

5.501 Including fail-safe override of hazardous condition:

This subclass is indented under subclass 5.5. Subject matter comprising means for detecting a perceived abnormal handling or ride posture characteristic presenting a potentially life threatening situation during surface traversing motion whereby the regulatable elastic means is caused to alter its elasticity property so as to assume a predefined state.

(1) Note. Fail-safe override requires a positive action by the regulatable elastic means upon the detection of a perceived abnormal handling or ride posture characteristic. The positive action may entail control elimination or attainment of a preordained position of the regulatable elastic means.

(2) Note. A suspension having regulatable elastic means that is merely preferentially operated while the vehicle is experiencing normal handling or ride posture characteristics is not proper for classification in this subclass and the subclass indented hereunder but rather belongs in an appropriate subclass provided later in the class schedule.

5.502 Of lateral vehicle attitude (e.g., antiroll, antisway):

This subclass is indented under subclass 5.501. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property so as to govern transverse or sideways vehicle body, chassis, or frame posture in relation to the vehicle body, chassis, or frame centerline.

(1) Note. The regulatable elastic means acts to change the transverse or sideways angulation of the vehicle body, chassis, or frame in relation to the travel direction.

5.503 Priority assignment between diverse control criterion:

This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property responsive to multiple, individual handling or ride posture characteristics encountered while the vehicle is in normal surface traversing motion and one of the encountered handling or ride posture characteristics dominates the response of the regulatable elastic means.

(1) Note. The phrase “normal surface traversing motion” is employed to distinguish from a perceived abnormal handling or ride posture condition which is provided for earlier in the class schedule.

(2) Note. Representative of multiple, individual handling or ride posture characteristics are lateral vehicle attitude, longitudinal vehicle attitude, riding or suspension height, suspension stiffness for ride comfort, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.501+, for a land vehicle active suspension having a regulatable elastic means which is caused to alter its elasticity property in response to a perceived abnormal handling or ride posture condition.

5.504 Including condition or parameter adjustment occurring at longitudinally spaced vehicle axles:

This subclass is indented under subclass 5.5. Subject matter comprising (a) supporting shafts or members for the ground engaging means positioned at front and rear ends of the vehicle body, chassis, or frame; (b) regulatable elastic means being disposed at each end of the vehicle; and (c) the regulatable elastic means are cooperatively regulated.

(1) Note. Regulatable elastic means positioned at front and rear ends of the vehicle body, chassis, or frame without the inclusion of the supporting shafts or members are not proper for classification in this subclass or those indented hereunder.

5.505 Applied between diagonally opposed suspension units:

This subclass is indented under subclass 5.504. Subject matter wherein (a) the regulatable elastic means are additionally located upon opposite sides of the vehicle body, chassis, or frame centerline and (b) the cooperative regulation of

the elastic means occurs upon opposite ends and opposite sides of the vehicle body, chassis, or frame.

5.506 Controlling lateral vehicle attitude (e.g., antiroll, antisway):
This subclass is indented under subclass 5.504. Subject matter wherein the cooperative regulation of the longitudinally spaced regulatable elastic means governs transverse or sideways vehicle body, chassis, or frame posture in relation to the vehicle body, chassis, or frame centerline.

(1) Note. Adjustment occurs upon each longitudinally spaced vehicle axle. Control of lateral vehicle attitude by regulatable elastic means upon a single vehicle axle is not proper for classification in this subclass but is provided for later in the class schedule.

(2) Note. The regulatable elastic means acts to change the transverse or sideways angulation of the vehicle body, chassis, or frame in relation to the travel direction.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.508+, for an active land vehicle suspension including control of lateral vehicle attitude by regulatable elastic means upon a single vehicle axle.

5.507 Lateral and longitudinal vehicle attitude control (e.g., combinations of antidive, antipitch, antiroll, antisquat, antisway, antiyaw, riding, or suspension height):
This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property so as to govern both transverse or sideways and front-to-rear or fore-and-aft posture of the vehicle body, chassis, or frame in relation to the vehicle body, chassis, or frame centerline.

(1) Note. A suspension system providing lateral and longitudinal attitude control including longitudinally spaced front and rear vehicle axles is not proper for classification in this subclass.

(2) Note. A suspension system separately providing, as claimed, for either lateral or longitudinal attitude control is not proper for classification in this subclass. Such a suspension system belongs in a subclass provided later in the class schedule for the respective lateral or longitudinal attitude control being claimed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.504+, for an active land vehicle suspension system providing lateral and longitudinal attitude control including elasticity adjustment occurring at longitudinally spaced vehicle axles.

5.508 Lateral vehicle disposition:
This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property so as to govern sideways or transverse posture of the vehicle body, chassis, or frame in relation to the vehicle body, chassis, or frame centerline.

(1) Note. The regulatable elastic means acts to change the transverse or sideways angulation of the vehicle body, chassis, or frame in relation to the direction of travel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.502, for a suspension controlling lateral vehicle attitude including fail-safe override of a hazardous condition.
5.504+, for a suspension controlling lateral vehicle attitude including longitudinally spaced vehicle axles.

5.509 Body banking:
This subclass is indented under subclass 5.508. Subject matter wherein the regulatable elastic means inclines or tilts the vehicle body, chassis, or frame toward a center of curvature about which the vehicle is executing arcuate travel to overcompensate for resultant centrifugal force experienced by the vehicle executing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.103, for a mechanical hardware or structural assembly suspension arrangement causing body banking on turning.

5.51 Steering element responsive (e.g., steering angle, steering rate):

This subclass is indented under subclass 5.508. Subject matter wherein the regulatable elastic means responds to operation of a mechanism causing the vehicle to execute arcuate travel.

(1) Note. The mere inclusion of terminology associated with arcuate travel of a vehicle, such as steered, turned, or turning, without a limitation indicative of operation of means for executing such arcuate travel of the vehicle does not render classification proper for this or the indented subclasses.

5.511 Applied to sway or torsion bar:

This subclass is indented under subclass 5.51. Subject matter wherein the regulatable elastic means includes an elongated rod, shaft, or tube having a long axis and providing a springing action through twisting about the long axis (torque deformation) upon which the regulative action is administered.

(1) Note. The mere inclusion of a sway or torsion bar does not cause assignment to this subclass unless a regulative action is applied to such sway or torsion bar.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.106+, for a mechanical hardware or structural assembly suspension arrangement for preventing sideways or transverse tilt of a vehicle body, chassis, or frame including a sway or torsion bar interconnecting laterally opposed wheel suspension units.

124.125+, for a suspension arrangement of a wheel separately supported upon an individual skein or spindle axle; especially subclass 124.13 wherein a longitudinally extending swinging arm includes stabilizing means within the connection housing of the swinging arm pivot to the vehicle body, chassis, or frame; subclass 124.137 wherein an upper and lower lateral control arm suspension includes a torsion bar; subclass 124.149 wherein a lateral control arm and vertical strut suspension includes a torsion stabilizer; or subclass 124.152 wherein a lateral control arm suspension includes a stabilizer bar.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 183+ for a spring device having a stabilizer bar for causing a uniform displacement along a substantially horizontal line contained in the vehicle body or chassis.

5.512 Including suspension stiffness for ride comfort (e.g., damping coefficient, spring rate):

This subclass is indented under subclass 5.51. Subject matter wherein the regulatable elastic means additionally governs the extent of vibrational force experienced by a vehicle occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.503, for an active suspension responsive to plural, diverse control criterion and one of the control characteristics is given regulative priority.

5.513 Longitudinal vehicle disposition (e.g., antidive, antipitch, antisquat):

This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property so as to govern front-to-rear or fore-and-aft posture of the vehicle body, chassis or frame along the vehicle body, chassis, or frame centerline.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.504+, for an active suspension including longitudinally spaced front and rear vehicle axles or wheel support means.

5.514 Riding or suspension height (e.g., ground-clearance, "trim height"):

This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property

so as to govern distance from various points of a vehicle body, chassis, or frame to the travel surface or vertical separation from running gear components.

(1) Note. This subclass provides for adjusting or maintaining a physically dimensioned separation gap (e.g., "trim height", etc.) between a vehicle body, chassis or frame and land or running gear components, as contrasted with the lateral or longitudinal vehicle attitude or disposition subclasses provided earlier in the class schedule whose proximate utility is regulation of the posture of the vehicle body, chassis, or frame, although the vehicle attitude or disposition subclasses may inherently alter riding or suspension height.

(2) Note. Fluid suspension systems including a "level control valve" provided with means for adjustment of the trip point thereof responding to changes of static loading are not proper for this subclass but are provided for later in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.501+, for a riding or suspension height adjustable suspension including fail-safe override.

5.503, for an active suspension responsive to diverse control criterion, one of which may be riding or suspension height.

6.157+, for body elevation or tilt adjustment of a vehicle due to a static load imposed upon the suspension including adjustment of a trip point of a "level control valve" within a fluid suspension system. See the (2) Note supra.

43+, for an extensible vehicle including vertically adjustable wheels for altering a dimension of the vehicle or part thereof.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 64.16 for a fluid spring device including means for maintaining an effective working range of the fluid spring device.

5.515 Suspension stiffness for ride comfort (e.g., damping coefficient, spring rate):

This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means is caused to alter its elasticity property so as to govern the extent of travel surface induced vibrational force experienced by a vehicle occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.512, for an active suspension controlling lateral vehicle disposition and including suspension stiffness for ride comfort regulation.

6.157+, for a suspension arrangement including control means which establish riding or trim height of the vehicle suspension arrangement due to a static load for enabling proper running gear operation, which may or may not involve adjustment of suspension stiffness.

124.101+, for a mechanical hardware or structural assembly suspension arrangement including control means for preparatory adjustment of the extent of resilient, shock absorbing support provided.

124.108, for a mechanical hardware or structural assembly suspension arrangement specifically abating mechanically induced vibration.

5.516 Bushing compliance:

This subclass is indented under subclass 5.515. Subject matter comprising an accommodative resilient coupling member whose elasticity property is altered.

5.517 Look ahead:

This subclass is indented under subclass 5.515. Subject matter comprising (a) means upon the vehicle for detecting land surface irregularities spatially positioned from the regulated elastic means and (b) the regulatable elastic means is caused to alter its elasticity property responsive thereto.

(1) Note. Included herein are "road surface detectors" relying upon a transient signal from an element of another regulatable

elastic means to signify the road surface condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.504+, for an active suspension including longitudinally spaced vehicle axles or wheel support means.

5.518, for an active suspension including "road surface detectors" which actually observe land surface irregularities and contour.

5.518 Traveling surface inspection:

This subclass is indented under subclass 5.517. Subject matter wherein the means upon the vehicle for detecting land surface irregularities actually examines or observes the land contour.

(1) Note. Included herein are sonic, ultrasonic, or other road surface examining systems.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.515+, for an active suspension which relies upon a transient signal from an element of a regulatable elastic means to signify the road surface condition.

5.519 Plural distinct modes (i.e., HARD-SOFT):

This subclass is indented under subclass 5.515. Subject matter comprising selection of an elasticity or resiliency value from among discrete, multiple relative elasticity or resiliency values, with each elasticity or resiliency value representing a defined ride firmness.

(1) Note. Included herein are suspension systems providing "HARD-SOFT" ride firmness.

(2) Note. Continuous adjustment or variable suspension systems are not included herein because they do not invoke selection of defined parameters.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.515+, for a continuous adjustment or variable active suspension.

5.52 Suspension geometry (e.g., camber, caster, toe-in/toe-out, wheel track, road contact):

This subclass is indented under subclass 5.5. Subject matter wherein the regulatable elastic means governs a spatial relationship between structural elements of the running gear.

(1) Note. Running gear is defined as the structural assembly connecting ground-engaging means (e.g., runner, skid, sled, wheel) to a vehicle body, chassis, or frame, inclusive of axle, control arm, link, shock absorber, spring, strut, etc.

(2) Note. The spatial relationship herein provides for other than vertical separation of the vehicle body, chassis, or frame from running gear components which is specifically provided in subclass 5.514 earlier in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.514, for a suspension including riding or suspension height alteration of the vehicle body, chassis, or frame relative to land or components of the running gear.

43+, for an extensible vehicle including vertically adjustable wheels relative to the running gear for altering a dimension of the vehicle or part thereof.

86.75+, for a wheeled vehicle running gear provided with means upon the vehicle enabling static adjustment of a spatial relationship.

5.521 Camber or caster:

This subclass is indented under subclass 5.52. Subject matter wherein the spatial relationship governs an inclination or tilt of (a) a wheel relative to the ground surface as measured in degrees from true vertical (i.e., camber) or (b) a steering axis relative to the center line of the wheel as measured in degrees from true vertical (i.e., caster).

(1) Note. Camber is the tilting inward (negative camber) or outward (positive camber) of the top of the wheel as viewed from the front of the vehicle.

(2) Note. Caster is the tilting forward (negative caster) or backward (positive caster) of a line extending through upper and lower ball joints or a kingpin as viewed from the side of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.751+, for general utility wheeled land vehicle running gear provided with means enabling static camber or caster adjustment.

5.522 Toe:

This subclass is indented under subclass 5.52. Subject matter wherein the spatial relationship governs a difference in distance between extreme front and rear edges of laterally opposed wheels relative to the longitudinal centerline of the vehicle.

(1) Note. "Toe-in" results when the distance difference for the extreme front edges is smaller than for the extreme rear edges. "Toe-out" results when the distance difference for the extreme front edges is greater than for the extreme rear edges.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.75+, for general utility wheeled land vehicle running gear provided with means for enabling static toe adjustment, particularly subclass 86.758 for toe adjustment of a steerable wheel.

5.523 Bushing compliance:

This subclass is indented under subclass 5.522. Subject matter comprising an accommodative resilient coupling member whose elasticity property is altered.

5.524 Nonsteered wheel (e.g., independent rear suspension):

This subclass is indented under subclass 5.523. Subject matter wherein the accommodative resilient coupling member is utilized in supporting an unsteerable, rolling ground engaging member.

6.15 BODY ELEVATION OR TILT:

This subclass is indented under the class definition. Vehicle comprising means disposed between that portion of a land vehicle which operates as a load, load carrier, or receptacle and running gear for vertically predisposing the load, load carrier, or receptacle at a distance from either the land surface or from the running gear to achieve change in height or level.

(1) Note. Running gear is defined as the structural assembly connecting ground-engaging means (e.g., runner, skid, sled, wheel) to a vehicle body, chassis, or frame, inclusive of axle, control arm, link, shock absorber, spring, strut, etc.

(2) Note. Means for vertically positioning a wheel relative to running gear for the purpose of altering a dimension of the vehicle or a part thereof is not proper for classification in this subclass or subclasses indented hereunder. Such subject matter is provided for later in the class schedule.

(3) Note. The means changes height or levelness for other than transient excursions. Adjustment or establishment of riding or suspension height of a vehicle body, chassis, or frame in response to a force encountered while the vehicle is executing surface travel is provided for earlier in this class (Class 280).

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.503, for an active suspension involving plural diverse control criterion one of which may be riding or suspension height adjustment.

5.514, for riding or suspension height adjustment occurring during vehicle travel.

7, for a vehicle wherein the receptacle, load, or load carrier comprises a tank or boiler with leveling means extending between running gear and the tank or boiler.

30+, for a vehicle which is convertible from a wheeled vehicle to a nonvehicular structure.

43+, for a vehicle comprising a running gear and a wheel means, and means

whereby the wheel means may be vertically adjusted relative to the running gear for the purpose of altering a dimension of the vehicle or a part thereof.

293+, for a velocipede which is provided with a prop or steadying device.

763.1+, for a vehicle which is provided with a retractable prop or stand which may be extended to stabilize the vehicle when not in motion.

SEE OR SEARCH CLASS:

56, Harvesters, subclasses 206+ for platform adjustments for harvesters.

105, Railway Rolling Stock, subclass 164 for railroad trucks with levelers.

172, Earth Working, appropriate subclasses, especially subclasses 395+ for earth working apparatus comprising vertically adjustable wheels; subclasses 400+ for means interconnecting the wheels of an earth working implement whereby they may be moved, simultaneously, vertically with respect to the frame; subclass 406 for an earth working apparatus with an actuator for adjusting wheels on different axles and an additional actuator for changing the relative position of the wheels; subclasses 446+ for laterally adjustable earth working tools which may involve a leveling feature; subclasses 459+ for an earth working element which is swingable about an axis which extends substantially in the direction of movement of the apparatus over the ground; or subclass 466 for an earth working tool which is lifted and held raised for transport by a means other than the lifting means.

180, Motor Vehicles, subclass 39 and 41 for motor vehicles of that class (Class 180) with leveling means and subclasses 89.1+ for attaching bodies of motor vehicles of that class (Class 180) to the running gear thereof.

296, Land Vehicles: Bodies and Tops, appropriate subclasses for vehicle body construction in general, especially subclasses 35.1+ for devices securing the vehicle body to the running chassis frame including nominal recitation of running gear.

298, Land Vehicles: Dumping, appropriate subclasses for vehicles other than track or rail vehicles adapted to carry a load with means to manipulate the vehicle so that a considerable part of the load will move by gravity to unload the vehicle.

6.151 Loading position:

This subclass is indented under subclass 6.15. Subject matter comprising predisposing the load, load carrier, or receptacle portion to accommodate cargo movement.

(1) Note. Included herein are means for positioning the load, load carrier, or receptacle portion of a land vehicle at a height compatible to that of a loading dock.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2, for a vehicle wherein a portion of the body or load supporting framework depends between axles and functions as part of the running gear connection.

43.11, for a vehicle having a vertically adjustable wheel for altering a dimension of the vehicle or a part thereof wherein the wheel axis may be moved to a position above the load carrying surface of the vehicle.

47.21+, for a handle propelled, tiltable vehicle having an adjustable or shiftable axle to varying the position thereof relative to the body to facilitate loading.

47.23, for a handle propelled, tiltable vehicle having a load carrying surface below a wheel axis with no means to elevate the wheel.

425.1+, for articulated vehicles including a semitrailer provided with power or manually actuated lift means on the tractor or reacting between the tractor and trailer to vertically position the connecting members (a) for coupling or (b) to raise the trailer after coupling.

446.1+, for articulated vehicles wherein the position of a connection is automatically changed in response to load or draft connections.

477+, for articulated vehicles including a coupling facilitating device wherein the articulated vehicles are other than the semitrailer type.

SEE OR SEARCH CLASS:

298, Land Vehicles: Dumping, appropriate subclasses for vehicles other than track or rail vehicles adapted to carry a load with means to manipulate the vehicle so that a considerable part of the load will move by gravity to unload the vehicle.

414, Material or Article Handling, subclass 584 for external means used to position the load, load carrier, or receptacle portion of a vehicle for accommodating cargo movement.

6.152 Occupant ingress or egress:

This subclass is indented under subclass 6.151. Subject matter wherein the accommodated cargo movement is user entry or exit from the vehicle.

(1) Note. Included herein are "kneeling" bus suspensions.

6.153 Static site leveling (e.g., camper, mobile home, recreational vehicle, work vehicle):

This subclass is indented under subclass 6.15. Subject matter comprising predisposing of the load, load carrier, or receptacle portion in a level attitude, irrespective of the surface contour beneath the vehicle, at a singular, stationary location.

(1) Note. Included herein are leveling means employing elements of the running gear. Leveling means involving attachments or auxiliary devices are not proper for classification in this subclass unless they are interrelated with an element of the running gear.

(2) Note. Level attitude for the purpose of this subclass is intended to be absolute level (i.e., parallel to a flat horizontal plane).

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.33, for a wheeled tiltable vehicle provided with leg structure to stabilize the vehicle in a rest position.

293+, for a velocipede which is provided with a prop or steadying device.

427+, for articulated vehicles including a semitrailer having landing gear with interrelated coupling or brake operation.

475, for articulated vehicles provided with ground engaging support means to partially support one of the vehicles when uncoupled from the other vehicle, wherein the support means is in a retracted or inoperative position when the vehicles are coupled.

763.1+, for a vehicle which is provided with a retractable prop or stand which may be extended to stabilize the vehicle when not in motion.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 418+ for attached vehicle jacks, including retractable ground supports and props.

6.154 Terrain slope compensation:

This subclass is indented under subclass 6.15. Subject matter comprising predisposing the load, load carrier, or receptacle portion to accommodate sustained travel upon an expansive inclined surface.

(1) Note. The presence of a gravity induced alteration control is included in this and the indented subclasses.

(2) Note. This and the indented subclasses are intended to position the load, load carrier, or receptacle portion in an appropriate attitude for prolonged travel upon a hillside or other protracted, nonlevel land configuration. Accordingly, load, load carrier, or receptacle vertical positioning occurring from encountering rough or uneven terrain is not proper for this or the indented subclasses. Such rough or uneven terrain adjustment is a normal function of a suspension system

and is provided for earlier in the class schedule if suspension adjustment is caused to occur in response to a force encountered while the vehicle is in surface traversing motion or in an appropriate subclass elsewhere.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.508+, for an active suspension responding to a force encountered while the vehicle is in surface traversing motion to regulate lateral disposition of the vehicle body, chassis, or frame.

5.514, for an active suspension responding to a force encountered while the vehicle is in surface traversing motion to regulate ground clearance or "trim height".

6.155 Individual ground engaging means vertically movable:

This subclass is indented under subclass 6.154. Subject matter comprising (a) separately mounted running gear positioned upon each side of the vehicle body, chassis, or frame; and (b) means to create vertical movement of at least one of the running gear.

(1) Note. Running gear is defined as the structural assembly connecting ground-engaging means (e.g., runner, skid, sled, wheel) to a vehicle body, chassis, or frame, inclusive of axle, control arm, link, shock absorber, spring, strut, etc.

(2) Note. Running gear comprising a single transverse axle either pivotally mounted or having a crank axle on each end is not to be considered separately mounted running gear proper for classification in this or the indented subclass but is provided for earlier in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.154, for a vehicle including body elevation or tilting by means of running gear comprising a single transverse axle either pivotally mounted or having a crank axle on each end.

43+, for means for vertically positioning a wheel relative to running gear for the purpose of altering a dimension of the vehicle or a part thereof.

6.156 Longitudinally extending support arm:

This subclass is indented under subclass 6.155. Subject matter wherein at least one vertically movable laterally positioned running gear is supported upon an elongate member pivotally mounted about a laterally directed axis.

6.157 Establishing riding or trim height:

This subclass is indented under subclass 6.15. Subject matter comprising predisposing the load, load carrier, or receptacle portion for attaining an appropriate location for proper running gear operation.

(1) Note. Riding or trim height is an art term recognized to define a normal operative disposition of structural components of the running gear design.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.503, for an active suspension involving plural diverse control criterion, one of which may be riding or suspension height adjustment. See the (3) Note under subclass 6.15 of this class.

5.514, for an active suspension having riding or suspension height adjustment responding while the vehicle is in motion. See the (2) Note under subclass 5.514 of this class.

86.5, for a vehicle including a selectively employed auxiliary axle which may or may not be deployed into ground engaging position for establishing riding or trim height.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 64.16 for a fluid spring device including means for maintaining an effective working range of the fluid spring device.

6.158 Including dwell period (e.g., delay, inactive, suppression):

This subclass is indented under subclass 6.157. Subject matter including means deferring incipient operation.

(1) Note. Included herein are riding or trim height establishing suspensions provided

with delay means inhibiting or precluding a response to excursions of the vehicle body, chassis, or frame while the vehicle is in motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.503, for a riding or trim height establishing suspension including means responding while the vehicle is in motion for superseding riding or trim height control. See the (3) Note under subclass 6.15 of this class.

6.159 Load responsive:

This subclass is indented under subclass 6.157. Subject matter wherein the riding or trim height is established by the distribution or quantity of payload placed in or upon the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.158, for a riding or trim height establishing suspension, which may or may not be responsive to a distribution or quantity of payload placed in or upon the vehicle, including means deferring incipient operation.

6.16 Lateral vehicle attitude:

This subclass is indented under subclass 6.159. Subject matter wherein the riding or trim height adjustment controls the sideways or transverse disposition of the vehicle relative to the vehicle body, chassis, or frame centerline.

(1) Note. Either a specific limitation directed to controlling lateral disposition or sole disclosure of controlling the running gear at lateral sides of a single vehicle axle are required for placement in this subclass.

7 This subclass is indented under subclass 830. Vehicle comprising (1) means for keeping the tank or boiler portion of a vehicle level responsive to a means sensing an actual or incipient nonlevel condition, or (2) an adjustable means extending between the running gear and the tank or boiler of the vehicle which is operative to level the tank or boiler.

7.1 This subclass is indented under the class definition. Velocipedes in which the parts may be manipulated to convert the vehicle into some other device or some other type of vehicle.

(1) Note. Velocipedes are those vehicles including skates, adapted to be propelled by the occupant including those pushed by the occupant by contact of the hands or feet with the surface over which the vehicle moves.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.188, for convertible figure type velocipedes.

9+, for wheel and runner vehicles with retractable wheels or runners.

13, for runners applied to the wheels of wheeled vehicles.

30, for a general utility wheeled land vehicle which is convertible to a nonvehicular structure.

87.01+, for coasters.

200+, for occupant propelled-type land vehicles.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclass 95 for trackman's car convertible to bicycle.

297, Chairs and Seats, subclasses 1+ for chair or seat convertible from wheel mounted to nonwheel mounted by reorienting the entire device, and subclasses 130+ for a chair or seat having alternately usable supporting devices, as wheels, rockers, suspending hangers and the like.

7.11 This subclass is indented under subclass 7.1. Velocipedes in which the conversion is from an ordinary frame to a drop frame, i.e., one which is commonly known as a ladies' bicycle.

7.12 This subclass is indented under subclass 7.1. Velocipedes in which the conversion is from a wheeled velocipede to a runner type or vice versa.

SEE OR SEARCH THIS CLASS, SUBCLASS:

8+, for wheel and runner vehicles.

13, for wheel runner type vehicles.

7.13 This subclass is indented under subclass 7.12. Velocipedes which have means adapting them to be attached to the feet of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
841+, for skates not convertible.

7.14 This subclass is indented under subclass 7.12. Vehicles in which a wheel is substituted for a runner or vice versa.

7.15 This subclass is indented under subclass 7.1. Vehicles which have means adapting them to be propelled by the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
7.12, for vehicles convertible to the runner type and having occupant propelling means.
200+, for nonconvertible vehicles with occupant propelling means.

7.16 This subclass is indented under subclass 7.15. Vehicles in which the conversion is to or from a plural occupant propelled vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
209, 222, 231+, and 273, for occupant propelled vehicles having provision for plural occupants.

7.17 This subclass is indented under subclass 7.15. Vehicles in which the conversion is from an occupant propelled vehicle to a nonoccupant propelled vehicle or vice versa.

8 This subclass is indented under the class definition. Vehicles provided with both supporting-wheels and runners.

SEE OR SEARCH THIS CLASS, SUBCLASS:
7.12+, for convertible velocipedes of the wheel and runner type.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 196 for a motor vehicle which includes one or more ski-like or runner members and wherein the vehicle is provided with at least one surface-engaging propulsion element and further wherein the element comprises a traction wheel.

9 This subclass is indented under subclass 8. Vehicles in which either the wheel or the runner gear may be moved to an inoperative position, leaving the other in position for use.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86.5, for a general utility wheeled land vehicle including an auxiliary axle assembly which is selectively disposable between a use and a nonuse position.
638+, for a vehicle constructed in such manner that the physical dimension of the vehicle or a part thereof may change or vary, particularly subclasses 639+ wherein the vehicle is foldable to a collapsed or more compact form or subclasses 43+ wherein the vehicle is provided with vertically adjustable wheels.

10 This subclass is indented under subclass 9. Vehicles in which the runner gear in its operative position engages the wheels of the wheeled gear.

SEE OR SEARCH THIS CLASS, SUBCLASS:
13, for wheel runner type sleds.

11 This subclass is indented under subclass 9. Vehicles in which the adjustable running-gear is pivoted to swing about an axis laterally of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
641+, for folding vehicles having pivoted wheel carriers with transverse axis.

11.115 With propulsion means driven by occupant: This subclass is indented under subclass 841. Skates provided with means to cause them to move relative to the surface on which they are supported, which means is driven by the manual effort of the person utilizing the skates.

SEE OR SEARCH THIS CLASS, SUBCLASS:

200+, for a vehicle of the wheeled type which is provided with means whereby it may be propelled by the occupant thereof.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 181 for a motor vehicle of the ski- or skate-type for imparting movement to a person standing thereon and wherein the power means or a portion thereof is affixed to or built into the ski or skate.

11.12 This subclass is indented under subclass 841. Skates which are supported by runners.

11.14 This subclass is indented under subclass 11.12. Skates in which the foot plates are resiliently supported on the runner.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11.15, for jointed runners and foot supports.

11.15 This subclass is indented under subclass 11.12. Skates in which the skate is made up of two or more runner supported sections pivotally connected, or in which the foot supports are movably jointed to the runners.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11.14, for resilient connections between the foot plates and runners.

11.16 This subclass is indented under subclass 11.12. Skates in which the foot supports are extensible to fit different size shoes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11.26, for extensible wheeled skates.

11.17 This subclass is indented under subclass 11.12. Skates in which a runner is secured in a frame including hollow foot posts.

11.18 This subclass is indented under subclass 11.12. Devices in which only the runner structure is claimed.

11.19 This subclass is indented under subclass 841. Skates which are provided with wheels.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 18+ for casters generally and 97+ for wheel mounts for panel hangers.

301, Land Vehicles: Wheels and Axles, subclass 5.301 for skate wheels.

11.201 With retrogression prevention:
This subclass is indented under subclass 11.19. Subject matter having means to prevent motion of the skate except in a forward direction.

11.202 Including skate ventilation:
This subclass is indented under subclass 11.19. Subject matter wherein a skate boot includes a device for air circulation to and from the skate boot.

11.203 Including lighting means:
This subclass is indented under subclass 11.19. Subject matter having a device which illuminates the skate or area around the skate or area around the skate.

11.204 With brake:
This subclass is indented under subclass 11.19. Subject matter including a skate wheel motion reducing or retarding member (i.e., a brake member).

SEE OR SEARCH CLASS:

188, Motor Vehicles, subclasses 2+ for vehicle brakes.

11.205 Continuously applied brake:
This subclass is indented under subclass 11.204. Subject matter wherein the brake member is in constant engagement with the wheels or the skating surface.

11.206 Brake includes roller engagable with skating surface:
This subclass is indented under subclass 11.204. Subject matter wherein the brake member includes a rotational element which when actuated by a rider contacts the skating surface.

11.207 Brake element rigidly attached to skate frame:
This subclass is indented under subclass 11.204. Subject matter wherein the brake member is firmly and non-movably secured to the skate.

11.208 Brake element engagable with skating surface:
This subclass is indented under subclass 11.207. Subject matter wherein the brake member contacts a surface upon which skate wheels are rolling.

11.209 Element attached to front end of skate:
This subclass is indented under subclass 11.208. Subject matter wherein the brake member is mounted at or near the bow of the skate.

11.211 Brake element movably mounted to skate frame:
This subclass is indented under subclass 11.204. Subject matter wherein the brake member moves relative to the skate upon braking.

11.212 Hand actuated brake controller:
This subclass is indented under subclass 11.211. Subject matter including a hand operated means mounted on the skate to regulate the movement of the brake member.

11.213 Wireless brake controller:
This subclass is indented under subclass 11.212. Subject matter wherein the movement of the brake member is regulated by an electromagnetic or sonic device.

11.214 Leg operated brake controller:
This subclass is indented under subclass 11.211. Subject matter wherein the brake member is regulated by a pivotal movement of skater s leg relative to the skater s foot.

11.215 Brake element pivotally mounted:
This subclass is indented under subclass 11.211. Subject matter wherein the brake member is hingedly secured to the skate for permitting the movement of the brake member during braking.

11.216 Brake element engagable with skating surface:
This subclass is indented under subclass 11.215. Subject matter wherein the brake member contacts a surface upon which the skate wheels are rolling.

11.217 Brake element engaging skating surface and wheel:
This subclass is indented under subclass 11.211. Subject matter wherein the brake member contacts the skating surface and a skating wheel during braking.

11.221 In-line wheels (e.g., in-line skates):
This subclass is indented under subclass 11.19. Subject matter wherein all the wheels supporting the skate are aligned so as to share a common rolling path.

11.222 Different size wheels:
This subclass is indented under subclass 11.221. Subject matter having one wheel larger or smaller than another wheel.

11.223 Axle mounting arrangement:
This subclass is indented under subclass 11.221. Subject matter includes specific structure for rotatably securing the wheels to skates.

11.224 Including pivotally mounted boot:
This subclass is indented under subclass 11.221. Subject matter wherein a under surface of a boot is hingedly secured to the skate.

11.225 Including shock absorbing means:
This subclass is indented under subclass 11.221. Subject matter includes a device between the wheels and the skate frame for dampening uneven or abrupt forces on the skate.

11.226 Spherical wheels:
This subclass is indented under subclass 11.221. Subject matter wherein the wheels are generally spherically shaped.

11.227 Cylindrical wheels:
This subclass is indented under subclass 11.221. Subject matter wherein the wheels are generally cylindrical shaped.

(1) Note. The axial length of the wheel is larger than the diameter of the wheel.

11.231 Three or four wheels:
This subclass is indented under subclass 11.221. Subject matter wherein the skate has three or four wheels.

11.232 A wheel raised above skating surface:
This subclass is indented under subclass 11.231. Subject matter wherein a wheel is positioned out of contact with a surface upon which the wheels are rolling.

11.233 Two wheels:
This subclass is indented under subclass 11.221. Subject matter wherein the skate has two wheels.

11.24 This subclass is indented under subclass 11.19. Skates having a single supporting wheel.

11.25 This subclass is indented under subclass 11.19. Skates having two supporting wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:
11.233, for skates with two wheels arranged in tandem.

11.26 This subclass is indented under subclass 11.19. Skates in which the foot supports are extensible to fit different sized shoes.

SEE OR SEARCH THIS CLASS, SUBCLASS:
11.16, for extensible runner type skates.

11.27 This subclass is indented under subclass 11.19. Devices in which the wheeled trucks and/or the truck mounting are claimed, per se.

11.28 This subclass is indented under subclass 11.27. Devices in which the trucks are resiliently yieldable relative to their supports.

11.3 This subclass is indented under subclass 841. Devices in which the means to attach or secure a skate to a rider's shoe are claimed. The mere inclusion of the runner or wheels broadly will not keep the patent out of this subclass.

SEE OR SEARCH CLASS:
36, Boots, Shoes, and Leggings, subclasses 62+ for detachable antislipping devices for shoes.

11.31 This subclass is indented under subclass 11.3. Devices in which the securing means comprises clamps engaging the toe and/or heel of the shoe.

SEE OR SEARCH CLASS:
36, Boots, Shoes, and Leggings, subclasses 64+, for clamping means for attaching antislipping devices to shoes.

11.32 This subclass is indented under subclass 11.31. Devices in which the clamping means is actuated by a screw device.

11.33 This subclass is indented under subclass 11.31. Devices in which the clamping means is actuated by a lever mechanism.

11.34 This subclass is indented under subclass 11.33. Devices having a screw adjustment.

11.36

This subclass is indented under subclass 11.3. Devices in which means is provided to support or brace the ankle of a skater.

SEE OR SEARCH CLASS:
602, Surgery: Splint, Brace, or Bandage, subclass 27 and 65 for ankle braces, per se.

12.1 This subclass is indented under subclass 845. Vehicles which have means adapting them to be propelled by the occupant, not merely pushed by the hands or feet of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
14.27+, for the push type sled vehicle, which is pushed by a standing occupant.

12.11 This subclass is indented under subclass 12.1. Vehicles in which the propelling means pushes the vehicle by intermittent contact with the surface over which the vehicle travels.

SEE OR SEARCH THIS CLASS, SUBCLASS:
219, for wheeled vehicles similarly propelled.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 187 for a motor vehicle which includes one or more ski-like or runner members and wherein the vehicle is provided with at least one surface-engaging propulsion element and further wherein the element has a shuffling movement along the surface which supports it.

12.12 This subclass is indented under subclass 12.11. Vehicles in which the propelling means is specially designed to be operated by the feet of the occupant.

12.13 This subclass is indented under subclass 12.1. Vehicles in which the propelling means is a traction wheel contacting the surface over which the vehicle moves.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 196 for a motor vehicle which includes one or more ski-like or runner members and wherein the vehicle is provided with at least one surface-engaging propulsion element and further wherein the element comprises a traction wheel.

12.14 This subclass is indented under subclass 12.13. Vehicles in which the propelling means is specially designed to be operated by the feet of the occupant.

13 This subclass is indented under subclass 845. Vehicles in which the runners are applied to the wheels of wheeled vehicles.

SEE OR SEARCH THIS CLASS, SUBCLASS:
10, for vehicles having both wheels and runners.

14 This subclass is indented under subclass 845. Vehicles in which the runners are constructed to replace the wheels of a wheeled vehicle and fit over the wheel-axles, usually on the axle-spindles.

SEE OR SEARCH THIS CLASS, SUBCLASS:
26, for rocker runner type vehicles.

14.1 Skis converted to sled:
This subclass is indented under subclass 845. Vehicles using standard snow skis, normally attached to individual feet of a standing occupant, as the slidable surface attached to some occupant or load supporting structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
818, for skis interconnected for training.

14.21 Standing occupant:
This subclass is indented under subclass 845. Subject matter wherein a floor (i.e., platform) of the vehicle is adapted to support both feet of an occupant in standing position and intended primarily to coast down a snow slope or ice (i.e., supporting surface).

(1) Note: These vehicles are analogous to skateboards or surfboards but may be used on snow or ice.

SEE OR SEARCH THIS CLASS, SUBCLASS:
14.28, for a standing occupant sled with steering handles.
23.1, for runner vehicles intended to be pushed using some upwardly extending superstructure, by an attendant who does not ride on the sled.

14.22 With two bindings mounted on single platform:
This subclass is indented under subclass 14.21. Subject matter wherein the vehicle includes two foot securing and fastening devices mounted on a single gliding member.

SEE OR SEARCH THIS CLASS, SUBCLASS:
11.3+, for means to attach a shoe to the skate.

14.23 Bindings interconnected for simultaneous release:
This subclass is indented under subclass 14.22. Subject matter wherein the feet securing and devices fastenings are connected by a linkage mechanism which allows both feet to be simul-

taneously detached from the feet securing and fastening devices.

14.24 Bindings pivot about vertical axis:
This subclass is indented under subclass 14.22. Subject matter includes a pivot connection of each binding to the platform which allows the bindings to move to selected positions about an passing perpendicular through the platform.

14.25 Platform supported by tandem runners:
This subclass is indented under subclass 14.21. Subject matter wherein surfaces of the platform in contact with the supporting surface are aligned so as to share a common gliding path.

14.26 Platform supported by side by side runners:
This subclass is indented under subclass 14.21. Subject matter wherein surfaces of the platform in contact with the supporting surface are laterally spaced.

14.27 With handle:
This subclass is indented under subclass 14.21. Subject matter including an upwardly extending hand graspable member (i.e., a handle) which is fixedly secured to the skate.

SEE OR SEARCH THIS CLASS, SUBCLASS:
14.28, for a runner vehicle with steering handle.

14.28 Steerable handle:
This subclass is indented under subclass 14.27. Subject matter wherein the handle is manipulated to direct the vehicle.

(1) Note. The device may simply be a lever for flexing the runner.

(2) Note. This subclass includes scooter type vehicles with runners.

15 Multiple sled:
This subclass is indented under subclass 845. Vehicle in which the sliding surface comprises a plurality of longitudinally spaced sliding running gear units.

16 This subclass is indented under subclass 15. Sleds arranged to be steered by the vehicle occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
771+, for occupant steered wheeled vehicles.

SEE OR SEARCH CLASS:
188, Brakes, subclass 8 for means for steering by altering the speed of one side of the vehicle as by a brake.

17 This subclass is indented under subclass 15. Sleds in which one sliding unit is mounted to swivel on a vertical axis, and may also rock about a lateral axis relative to the other sliding unit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124.114+,for a wheeled vehicle having running gear including a rocking and swinging axle.

18 Toboggan:
This subclass is indented under subclass 845. Vehicles where the sliding surface is provided by a large flat bottom surface of the load support.

(1) Note. In these sleds the sliding running gear is the bottom of the load support.

18.1 Bowl or saucer type:
This subclass is indented under subclass 18. Vehicles wherein the entire vehicle serves as the sliding surface and is in the shape of a saucer or bowl.

19 This subclass is indented under subclass 18. Sleds having contact with intended to be pulled the supporting surface along substantially their entire width.

SEE OR SEARCH THIS CLASS, SUBCLASS:
18, for toboggans.

19.1 Shelter sled:
This subclass is indented under subclass 845. Runner vehicles provided with means to convert the vehicle to an occupant shelter for ice fishing or the like.

(1) Note. The sliding surface, in the form of runners, may remain in place or the entire device may be reorganized.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28.12, for situations in which the vehicle is used to shelter ice fishing equipment only, in which case it is considered to be a container.

SEE OR SEARCH CLASS:

52, Static Structures (e.g. Buildings), for portable buildings.

135, Tent, Canopy, Umbrella, or Cane, for tent shelters.

20 This subclass is indented under subclass 845. Sleds which are foldable from their condition of use into a more compact form, as for storage or shipment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

9+, for vehicles having wheels and runners, one or both being retractable.

639+, for folding wheeled vehicles.

21.1 Occupant steered:

This subclass is indented under subclass 845. Vehicles having a single running gear unit arranged to be steered by the occupant of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16, for occupant steered sleds with multiple sliding running gear units.

771+, for occupant steered wheeled vehicles.

SEE OR SEARCH CLASS:

188, Brakes, subclasses 8+ for means for steering by altering the speed of one side of the vehicle, as by a brake.

22 This subclass is indented under subclass 21.1. Sleds in which the runners are hinged sections or of flexible construction, so that they can be bent out of straight lines to steer the vehicle.

22.1 Tiltable runner type:

This subclass is indented under subclass 21.1. Vehicles in which a steering effect results from the rotation of the runners about their longitudinal axes relative to the load or occupant support platform.

SEE OR SEARCH THIS CLASS, SUBCLASS:

21.1, for runners which tilt as a result of a compound rotation about an angular upright axis.

23.1 Push:

This subclass is indented under subclass 845. Vehicles designed to be propelled by being pushed by a rear attendant.

(1) Note. The sled may include a front load or occupant seating platform and the rear attendant may ride on the rear of the sled as it coasts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.13+, and 47.34+, for hand propelled wheeled vehicles.

87.021+, for wheeled push vehicles.

24 This subclass is indented under subclass 845. Sleds provided with means for attaching poles, shafts, or the like for draft purposes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

63+, for a wheeled land vehicle normally traveling on two wheels including a draft connection.

124.114+, for running gear of a general utility wheeled land vehicle including a rocking and swinging axle which may or may not involve a draft connection.

124.12, for running gear of a general utility wheeled land vehicle including a resilient, shock absorbing mounted swinging axle having a draft connection.

137.501, for running gear of a general utility wheeled land vehicle including a turnable axle having a draft connection, noting the search notes provided therein for additional relevant subclasses.

SEE OR SEARCH CLASS:
278, Land Vehicles: Animal Draft Appliances, subclasses 52+ for thrill couplings for vehicles.

25 This subclass is indented under subclass 845. Sleds having springs supporting the load-carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:
79, and see the search notes thereunder.

SEE OR SEARCH CLASS:
267, Spring Devices, subclasses 2+ for vehicle springs.

26 This subclass is indented under subclass 845. Sleds in which the individual runners are mounted to rock longitudinally of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
14, for hub mounted runners.
15+, for multiple sleds.

27 This subclass is indented under subclass 845. Devices comprising connecting members between the runner-base and the load support.

28 This subclass is indented under subclass 845. Devices in which the sliding portion of the runner is claimed.

SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, subclasses 544+ for a web or sheet-stock material, e.g., of indefinite length, which is all metal or has adjacent metal components.

28.11 With brake:
This subclass is indented under subclass 845. Vehicle including a device to stop or retard the motion of the vehicle.

SEE OR SEARCH CLASS:
188, Brakes, appropriate subclasses for brakes, per se, with no significant vehicle structure, and especially subclass 8 for ground engaging brakes.

28.12 Container type:
This subclass is indented under subclass 845. Vehicle where the sliding surface or surfaces support a receptacle container for nonoccupant loads.

28.13 Logging type sled:
This subclass is indented under subclass 845. Vehicles in which a sliding running gear unit is attached to one end only of the load to be transported.

SEE OR SEARCH THIS CLASS, SUBCLASS:
19, for drags having no particular sliding running gear unit.

28.14 Central runner:
This subclass is indented under subclass 845. Vehicles equipped with a central primary load carrying runner.

28.15 With auxiliary outrigger runner:
This subclass is indented under subclass 28.14. Vehicles equipped with laterally mounted runners, in addition to the central runner, for limiting tilting or assisting in steering.

(1) Note. The laterally mounted runners are normally out of engagement with the running surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47.131+, for a tiltable wheeled vehicle which is stabilized by an article or an attendant.

28.16 Auxiliary top, bottom or side runners:
This subclass is indented under subclass 845. Vehicles equipped with auxiliary runners in addition to the primary running surface.

(1) Note. The vehicle is stable on its primary sliding surface, the auxiliary runners being normally out of engagement with the ground. The auxiliary runners may be located laterally to prevent overturn, on the bottom to provide additional support in loose snow or on top to enable the vehicle to be inverted for use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28.14+, for nonstable runner vehicles with a single central runner.

755, for an attachment preventing rolling or tilting of a general utility wheeled land vehicle past a given point.

28.17 Machinery sled:

This subclass is indented under subclass 845. Vehicle having particular runner structure to support a machine or machine parts collectively.

28.18 Tank or vacuum cleaner:

This subclass is indented under subclass 28.17. Vehicle specifically for supporting vacuum cleaners or other cylindrical container type devices.

28.5 This subclass is indented under the class definition. Vehicles provided with supporting wheel substitutes to engage the surface over which the vehicle moves.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.22, for a step or abutment ascending type vehicle provided with an endless track.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 164 for a motor vehicle provided with means for creating a fluid force to attract the vehicle to the surface upon which it travels; subclasses 116+ for a motor vehicle of the surface effect type; subclasses 180+ for a ski- or skate- type vehicle for imparting movement to a person standing thereon; subclasses 182+ for a motor vehicle which includes one or more ski-like or runner members; and subclasses 7.1+ for a motor vehicle having a special driving device. Class 180 takes all wheel substitute vehicles, unless (1) a claim is drawn to a vehicle other than a motor vehicle, or (2) the claimed vehicle is identified as only a nonmotor vehicle in the specific disclosure, noting (1) and (2) do not apply to the special suction and surface effect vehicles.

305, Wheel Substitutes for Land Vehicles, for wheel substitutes, per se. Class 305 takes patents claiming the combination of a wheel substitute and a vehicle, if the vehicle is only nominally recited in the claims. Expressions such as a vehicle frame, an axle, a pivotal connection between the vehicle frame and the wheel substitute are considered mere nominal recitations of vehicle structure and would be classified in Class 305 if the claim is otherwise directed to a wheel substitute apparatus.

29 This subclass is indented under the class definition. Vehicles provided with supporting-wheels to engage the surface over which the vehicle moves.

(1) Note. See search notes under the class definition.

30 This subclass is indented under subclass 29. Vehicles which are convertible from wheeled vehicles to nonvehicular structures.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.2+, for vehicles convertible into stair climbing devices.

6.15+, for a general utility land vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame.

9+, for a land vehicle provided with ground engaging means of both wheel and runner construction wherein either the wheel or the runner may be moved to an inoperative position, leaving the other in position for use.

43+, for a general utility wheeled land vehicle having vertically adjustable wheels for the purpose of altering a dimension of the vehicle or a part thereof.

31 This subclass is indented under subclass 30. Vehicles convertible from wheeled vehicles to cradles or cribs where the structure accom-

plishing the result is a part of or attached to the vehicle.

SEE OR SEARCH CLASS:

5, Beds, subclass 107 for rocking frames or rockers adapted for attachment to the wheels of a child's carriage for this purpose.

32 This subclass is indented under subclass 30. Vehicles designed to be used as vehicles or to be inverted and used as roller-skids.

SEE OR SEARCH THIS CLASS, SUBCLASS:

28.16, for a runner vehicle provided with auxiliary runner structure which may be provided for an inverted usage of the vehicle.

47.131, for article supports or dollies.

32.5 This subclass is indented under subclass 29. Vehicles comprising (1) a support means such as a seat, body rest or platform, for a person engaged in manual labor on or adjacent the ground, or (2) a shade for such a person combined with a load carrying means.

(1) Note. The person may drive or steer the vehicle in addition to laboring adjacent the ground, but merely driving, steering or riding on the vehicle is not within the subclass definition.

(2) Note. The vehicles in the subclass are usually for supporting or shading persons engaged in planting, cultivating, harvesting, corn detasseling or the like. If a tool is used it is one that is held in the hand.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.7, for a wheeled vehicle comprising a seat for attachment to another vehicle.

SEE OR SEARCH CLASS:

56, Harvesters, appropriate subclasses for harvesters combined with worker's supports or shades.

111, Planting, subclasses 100+ for plant setting machines having ground working, plant handling or watering means with worker supports.

135, Tent, Canopy, Umbrella, or Cane, subclasses 88.01+ for wheeled shades or canopies where neither the worker or any other load is supported by the vehicle, and subclass 900 for worker shelters.

172, Earth Working, subclasses 431+ for an earth working apparatus with a seat or attendant's station.

182, Fire Escape, Ladder, or Scaffold, subclass 129 for nonwheeled workmen's supports (e.g., kneeling base type) combined with receptacles (as for soap, brush, etc.), and subclass 230 for the workman's support, per se. See the search note in subclass 230 for the line with similar devices used by nonworkers.

296, Land Vehicles: Bodies and Tops, subclasses 63+ for land vehicle bodies with seats where the body is modified to cooperate with the seat.

297, Chairs and Seats, subclasses 184.1+ for a chair or seat with a canopy and subclasses 423.1+ for a chair or seat with a kneeling stool.

414, Material or Article Handling, subclass 508 for a self-loading or unloading vehicle having a conveyor for loading or unloading it and a support for carrying a person in working relation to the conveyor.

32.6 This subclass is indented under subclass 32.5. Vehicles comprising low bed-like trucks adapted to support a repairman while working under a device such as a vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

62, and 79.11, for platform type vehicles generally.

639+, for folding vehicles generally, some of which are of the platform type.

SEE OR SEARCH CLASS:

5, Beds, subclasses 636+ for head rest attachments for beds and also for repairman's creepers when the body is claimed merely as a support for the rest; subclass 417 for ground mats.

254, Implements of Apparatus for Applying Pushing or Pulling Force, subclasses 2+ for hoisting trucks.

32.7 This subclass is indented under subclass 29. Apparatus comprising a wheeled vehicle having a seat or station adapted to carry an operator or attendant and also adapted for attachment to another vehicle (e.g., an agricultural implement).

(1) Note. The wheeled vehicle must not carry any load other than the operator and must not support any of the weight of the implement when in operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.5+, for a wheeled vehicle having a seat or station for a workman engaged in manual labor on or adjacent to the ground.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 433 for a significantly claimed agricultural implement having a riding attachment.

33.991 Nesting vehicles:

This subclass is indented under subclass 29. Vehicles which are constructed so that they will interfit with one another to permit parts of one to be received partially within the boundaries of another to produce a nesting relation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

401, for an articulated vehicle wherein one section is movable from a trailing position to a completely supported position upon another section of the vehicle.

402, for a vehicle train wherein the trailing vehicle is suspended upon the leading vehicle.

639+, for vehicles which are adapted to be folded and stacked in abutting relation without nesting.

33.992 Attachments or accessories:

This subclass is indented under subclass 33.991. Vehicles provided with attachments or accessories such as special handles, signs, load indicators, means to prevent theft, writing pads or calculator holders, etc.

SEE OR SEARCH CLASS:

40, Card, Picture, or Sign Exhibiting, subclass 308 for basket carried indicia.

224, Package and Article Carriers, subclass 411 for an article carrier attached to a shopping cart, where the organization of the shopping cart is not changed.

33.993 Children's seat:

This subclass is indented under subclass 33.992. Vehicles having attachments in the form of occupant supports.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.35, for stable vehicles with plural load supports, one of which may be a seat.

SEE OR SEARCH CLASS:

297, Chair and Seats, for seats, per se.

33.994 Brake or antitheft device:

This subclass is indented under subclass 33.992. Vehicles having attachments which prevent theft of either the vehicle or its contents, or to hold the vehicle stationary.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, appropriate subclasses for caster locks.

70, Locks, appropriate subclasses for locks, per se.

188, Brakes, appropriate subclasses for brake structure, per se, and braked casters.

33.995 With means facilitating unloading:

This subclass is indented under subclass 33.991. Vehicles providing with perfecting features to facilitate the unloading or removal of a basket or otherwise assist in transferring purchased items to a checkout counter.

SEE OR SEARCH CLASS:

186, Merchandizing, subclasses 62+ for car accommodation or handling, per se.

33.996 Pivoted load support:
This subclass is indented under subclass 33.991. Vehicles provided with pivotally movable baskets or load supporting structures useful to facilitate nesting.

(1) Note. This subclass is not intended to receive mere pivoted walls.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47.18, and 47.35, for other moveable load supports.

33.997 Load supporting frame:
This subclass is indented under subclass 33.991. Vehicles having particular base structure between the running gear and the load support.

(1) Note. Patents contained within this subclass are restricted to those claiming novel base structure.

33.998 Vertically nestable or confined:
This subclass is indented under subclass 33.991. Vehicles in which the nesting takes place in a vertical direction, or where vehicles are arranged within, and supported by a lower supporting vehicle.

SEE OR SEARCH CLASS:
108, Horizontally Supported Planar Surfaces, subclass 91 for vertically nesting horizontal supports.
206, Special Receptacle or Package, subclass 499 for nesting containers.

35 This subclass is indented under subclass 638. Vehicles which are adapted to support special articles and usually propelled by pushing on the article itself.

SEE OR SEARCH THIS CLASS, SUBCLASS:
43.1, for a vehicle which is unstable when in transporting position and has vertically adjustable ground engaging means and which is stabilized by an attendant or an article to which the vehicle is attached.
47.131, for article supports and dollies which are not extensible.

37 This subclass is indented under subclass 639. Vehicles which are foldable into the form of a traveling bag or case, the wheels and other parts being inclosed therein.

SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 335 for a vehicle container.

38 This subclass is indented under subclass 639. Vehicles in which the wheel-carriers swing on pivots when folding and unfolding.

SEE OR SEARCH THIS CLASS, SUBCLASS:
9+, for retracting wheels and runners for vehicles.

39 This subclass is indented under subclass 38. Vehicles in which the axis of each wheel-carrier pivot is arranged longitudinally of the vehicle.

40 This subclass is indented under subclass 39. Vehicles normally traveling on two wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47.24+, and 63+, for other two wheeled vehicles.

42 This subclass is indented under subclass 639. Vehicles which in folding decrease their width, the wheels remaining in vertical position.

43 This subclass is indented under subclass 638. Vehicle comprising a running gear and wheel means, and means whereby the wheel means may be selectively held in different positions vertically relative to the running gear.

(1) Note. Running gear is defined as the structural assembly connecting a wheel to a vehicle body, chassis, or frame comprising an axle, control arm, link, shock absorber, spring, strut, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.5+, for a vehicle including suspension modification enacted as a result of a force encountered during travel, especially subclass 5.514 where the modi-

fication provides a regulation of riding or suspension height.

5.28, for adjustable running gear adapted to render a vehicle capable of ascending a step or abutment.

6.15+, for a vehicle including means, interposed between the vehicle body, chassis or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame, especially subclasses 6.157+ wherein the height or levelness regulation is for the proximate utility of positioning the vehicle body, chassis, or frame in a posture to enable proper operation of the suspension mechanism.

83, for vertically adjustable tongue trucks.

86.5, for a general utility wheeled land vehicle including an auxiliary axle assembly which is selectively deployed in either a use or nonuse position so as to assist the primary running gear when in the use position.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 354+ for a vertically adjustable work contacting nozzle supporting carriage for vacuum cleaners.

16, Miscellaneous Hardware, subclass 19 for vertically adjustable casters used to support furniture or the like on a floor.

56, Harvesters, subclasses 208+ for platform adjustments for harvesters involving vertically adjustable wheels.

111, Planting, subclasses 52+ for vertically adjustable ground supports for frames of drilling machines for planting operations.

171, Unearthing Plants or Buried Objects, subclass 139 for unearthing apparatus having a frame and vertically adjustable wheels.

172, Earth Working, subclasses 395+ for devices comprising an earth working element, a mounting frame therefor, and a vertically adjustable ground support for said frame. The earth working element must be separately mentioned in the body of the claim for classification in Class 172. A claim merely to a frame and relatively adjustable vertical wheels is classified in Class 280 even if the device is identified as an earth working implement in the claim preamble.

180, Motor Vehicles, subclass 24.02 for a motor vehicle having a wheel arrangement comprising five or more wheels and wherein one of the wheels is adjustably, or otherwise, mounted to move vertically for the purpose of modifying the proportion of the load imposed upon at least one other wheel of the vehicle; and subclass 209 for a motor vehicle having a special wheel base and provided with means which may comprise means for changing the number of wheels utilized to support the vehicle, which change may involve moving at least one of the wheels vertically.

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 2+ for hoisting trucks. The devices comprise wheeled hoists comprising a running gear and a load support and means for vertically adjusting said load support other than a means for vertically adjusting said load support by vertical adjustment of the wheels relative to the running gear.

472, Amusement Devices, particularly subclass 15 for an occupant propelled roundabout used as a trainer for foot travel.

482, Exercise Devices, particularly subclasses 66+ for an occupant support frame having a movement facilitating feature for foot travel.

43.1 This subclass is indented under subclass 43. Vehicle which the vehicle directly or contacting (1) is inherently unstable when in transport position but is stabilized by an attendant who propels and balances the vehicle by contacting a handle or harness attached to the vehicle, (2) is inherently unstable when in transport position, is adapted to be temporarily attached to articles to transport them and is stabilized by some outside force (such as an attendant or other vehicle) contacting the article, or (3) is inherently unstable when in transport position

but adapted to be stabilized by temporary attachment to articles for transporting them either because more than one of the unstable vehicles of this subclass are temporarily attached to the article or because the article has other wheels.

(1) Note. An attendant is a person who is not an occupant of the vehicle under consideration.

(2) Note. A receptacle which is intended to be loaded or to have portions of the load removed therefrom while associated with the wheels of the unstable vehicle is considered to be a part of the vehicle, i.e., a removable vehicle body, rather than an article. An example, of such a receptacle is a golf bag.

SEE OR SEARCH THIS CLASS, SUBCLASS:

35, for extensible article supports.

43.14+, and 43.24, for nonwheel means engageable with the ground when the wheels are raised vertically.

47.131+, for tiltable vehicles not having vertically adjustable wheels.

63+, and 78, for other vehicles normally traveling on two wheels and one wheel, respectively, and not stabilized by an article or attendant.

107, for running gear provided with means for retaining a vehicle body or load in position thereon.

179, for load binders as attachments to vehicles.

200+, for occupant propelled vehicles stabilized by the occupant, e.g., bicycles.

SEE OR SEARCH CLASS:

190, Trunks and Hand-Carried Luggage, subclass 18 for the combination of an article of baggage with transporting wheels where more baggage structure is claimed than necessary to mount or house the wheels.

43.11 This subclass is indented under subclass 43. Vehicle comprising a load carrying surface and in which the highest position of vertical adjustment of the wheel relative to the vehicle is such that the wheel axis is above the carrying surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2, for a vehicle having a portion of its body or load supporting framework depending between the vehicle axles to form a part of the running gear.

6.151+, for a vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame for the proximate utility of facilitating cargo movement which may entail lowering the cargo support surface below the usual running gear level.

47.23, for a handle propelled vehicle having its load base below the wheel axis with no means to elevate the wheels.

414, for articulated vehicles constructed to accommodate a boat.

43.12 This subclass is indented under subclass 43. Vehicle comprising a load carrying surface and in which the highest position of vertical adjustment of the wheel relative to the vehicle is one in which the upper peripheral portion of the wheel is substantially tangential to and is always below the load carrying surface.

SEE OR SEARCH CLASS:

108, Horizontally Supported Planar Surfaces, subclasses 51.11+ for an industrial platform.

43.13 This subclass is indented under subclass 43. Vehicle in which a plurality of wheels are independently mounted on different axles and there are additional means interconnecting the wheels whereby they may be moved simultaneously vertically with respect to the running gear or so that the movement of one influences movement of the other, and there is an actuator for moving a wheel.

(1) Note. A structure comprising a single axle having a crank axle on each end with a wheel mounted on each crank axle is not considered to be a structure having wheels independently mounted on different axles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.15+, for a land vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 400+ for interconnected vertically movable ground supports for earth working element frames.

43.14 This subclass is indented under subclass 43.13. Vehicle wherein the vertically adjustable wheels are replaced as a support for the vehicle running gear by leg or skid means when the wheels are vertically adjusted to a given position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

43.1, for an unstable vehicle stabilized by an attendant or an article.

43.24, for vehicles having vertically adjustable wheels and nonwheel means for engaging the supporting surface when the wheels are adjusted to a given position.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 32+ for casters for supporting furniture or other like objects wherein the caster is vertically adjustable to a position above the floor.

43.15 This subclass is indented under subclass 43.14. Vehicle wherein the distance between any two vertically adjustable wheels is varied as they are vertically adjusted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

43.16, for wheeled vehicles having means for adjusting wheels on different axles and having means to vary the distance between the wheels as they are vertically adjusted.

43.16 This subclass is indented under subclass 43.13. Vehicle wherein the distance between any two vertically adjustable wheels is varied as they are vertically adjusted.

SEE OR SEARCH THIS CLASS, SUBCLASS:

43.15, for wheeled vehicles having means for adjusting wheels on different axles and having nonwheel means for engaging the vehicle supporting surface and means to vary the distance between the wheels as they are vertically adjusted.

43.17 This subclass is indented under subclass 43. Vehicle comprising actuating means to vertically move the wheel means relative to the running gear.

SEE OR SEARCH THIS CLASS, SUBCLASS:

414.5, for an articulated vehicle wherein the trailing vehicle has a ground engaging wheel which is vertically movable with respect to the trailing vehicle frame.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclasses 215.1+ for a railway truck having primary wheels and supplemental wheels to be moved to operative position at will.

172, Earth Working, subclass 399, 400+, 407+, 414, 418+, and 423+ for an earth working element frame having a ground support which is vertically movable relative to the frame by an actuator.

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 418+ for raising and lowering landing gears on semi-trailers and for lifting vehicles off the ground and/or turning the vehicle about a given point.

43.18 This subclass is indented under subclass 43.17. Vehicle comprising spring means to support a vehicle body on the running gear.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, for a general utility wheeled land vehicle provided with springs between the wheel or wheels and the load-support, noting the search notes provided therein.

124.1+, for a general utility wheeled land vehicle running gear providing resilient, shock absorbing support for the vehicle body, chassis, or frame.

275+, for a wheeled land vehicle of occupant propelled type including steering having a yielding frame and running gear (it is noted that in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear without features causing classification in Class 180, Motor Vehicles, are included in these subclasses).

283+, for a wheeled land vehicle of occupant propelled type including a yielding frame and running gear lacking steering.

43.19 This subclass is indented under subclass 43.17. Vehicle in which the actuating means includes a flexible member.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 414 for an earth working element frame connected ground support which is vertically adjustable relative to said frame by an actuator connected thereto which allows free movement between the two in at least one direction.

43.2 This subclass is indented under subclass 43.17. Vehicle wherein the means causing actuation comprises a threaded stud member whose threads engage the threads of a threaded nut member.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 419 for an earth working implement and frame having a ground engaging support which may be caused to translate vertically relative to the frame by means of a screw jack type actuator, and subclass 427 for a screw jack type actuator to move the ground engaging support of an earth working element frame vertically relative to the frame.

43.21 This subclass is indented under subclass 43.17. Vehicle wherein the actuating means comprises a rack member meshing with a gear or engageable by a ratchet member.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 420 for rack and pinion or ratchet type actuators for ground support members adapted to move with a translating motion relative to the earth working frame supported, and subclass 428 for rack and pinion or ratchet actuators to move a ground support for an earth working implement vertically relative to the implement frame.

43.22 This subclass is indented under subclass 43.17. Vehicle in which the motion caused by the actuator is such that all points of the wheel means have at any instant the same velocity and direction of motion.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 415+ for an earth working element frame having a ground support which has a translating motion relative to the frame when moving from one vertical position to another.

43.23 This subclass is indented under subclass 43.17. Vehicle wherein the actuating means is operated by a motor.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 407+ for an earth working element frame connected ground support which is vertically adjustable by power means.

43.24 This subclass is indented under subclass 43. Vehicle wherein the vertically adjustable wheels are replaced as a support for the vehicle running gear by leg or skid means when the wheels are vertically adjusted to a given position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

43.14, for vehicles having means interconnecting wheels on different axles whereby the interconnected wheels are vertically movable to a position where they are replaced as the vehicle supporting means by a nonwheel means.

46 This subclass is indented under subclass 43. Vehicles in which the elevating mechanism is operated by manipulation of the vehicle-tongue.

47 This subclass is indented under subclass 43. Vehicles in which power derived from the rolling motion of a ground wheel as the vehicle is propelled over the ground is used to vary the elevation of the wheel relative to the body.

SEE OR SEARCH CLASS:

172, Earth working, subclass 402, 404 and 408+ for earth working tools carried by frames which have wheels which are vertically adjusted by power derived from the adjusted wheels. The recitation of an earth working implement by name only having a wheel which is vertically adjusted by its own power is classifiable in Class 280, Land Vehicles.

47.1 This subclass is indented under subclass 29. Vehicles in which the body, generally intended for occupation by a child, is connected to its wheel support in such a manner that body rocking will occur as the wheels rotate during travel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.38+, for other vehicles of the "Baby Carriage" type.

827, for simulating type velocipedes providing body rocking during travel.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, subclasses 269+ for a wheeled figure toy having means to move a figure portion.

47.11 This subclass is indented under subclass 29. Vehicles adapted to be propelled (pushed or pulled) by an attendant who is not an occupant of the vehicle, generally by handle means, provided with steerable wheel means and operating mechanism therefor under control of the attendant to effect positive steering movement of the wheel means relative to the vehicle body, the controlling action by the attendant to actuate said mechanism involving either (1) exertion of a lateral thrust on the vehicle directly or by way of the handle means when guiding the vehicle to make a turn, or (2) manipulation of the handle or other means operatively connected to said wheel operating mechanism.

(1) Note. Vehicles which are propelled and steered by tongues or shafts connected to the running gear, not disclosed or claimed for hand propulsion, are placed in the subclass providing for the running gear structure involved.

(2) Note. Vehicles which are propelled and steered by tongue or shaft means connected to the running gear, even if disclosed for propulsion by a walking attendant, are not here classified if the portion of the running gear to which said means is connected comprises a wheel carrying frame or shaft pivotally connected to the said body, so that upon lateral swinging of the tongue or shaft means by the attendant the wheel frame or wheel shaft will merely swing as a unit with the tongue or shaft means about the pivotal connection, and will not effect relative steering movements of any additional wheel frame or shaft. In cases where the aforesaid wheel carrying frame or shaft is operatively coupled to any of the other wheel means of the running gear so as to cause the latter to have steering movement relative to the body as well, classification is in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79.11+, for wheeled vehicles having separate unconnected castering wheels to facilitate steering in response to a side thrust.

87.01+, for coaster vehicles having steering means.

98+, for running gear of a general utility wheeled land vehicle specially constructed so as to enable execution of arcuate travel within a short radius of curvature (i.e., short turn).

124.12, for running gear of a general utility wheeled land vehicle including a resilient, shock absorbing mounted swinging axle having a draft connection neither disclosed or claimed as a handle nor claimed in a combination of plural interconnected vehicles (i.e., a vehicle train).

137.501, for running gear of a general utility wheeled land vehicle including a turnable axle having a draft connection, noting the search notes provided therein for additional relevant subclasses.

442+, for vehicle train draft devices adapted to effect positive wheel steering.

SEE OR SEARCH CLASS:

56, Harvesters, subclass 14.7 for a motor-driven harvester steered by a walking attendant.

172, Earth Working, subclasses 256+ for an earth working apparatus comprising a propulsion unit guided by a walking attendant.

180, Motor Vehicles, subclasses 19+ for motor vehicles steered by a walking attendant.

47.12 This subclass is indented under subclass 29. Vehicles provided with ground or ledge engaging rocker or fulcrum means additional to the fulcrum formed by the traction wheels on which the vehicle customarily travels about whose axis the load body may normally be tilted.

(1) Note. Generally, rocking about the added fulcrum results in the traction wheels being lifted from the ground to place the vehicle in a load receiving or removing position. Legs or other supports on which tiltable type vehicles are rested when not propelled are not considered fulcrums.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.32, for vehicles having fulcrums with wheel means to facilitate movement on steps or similar obstructions.

SEE OR SEARCH CLASS:

248, Supports, subclass 129 for wheeled receptacle stands having special provisions for supporting and holding a receptacle in position for use, storage, display or for manipulating the same, in which wheels are provided to make it more readily movable.

414, Material or Article Handling, subclasses 444+ for similar vehicles having self-loading features.

47.131 Tiltable vehicles, stabilized by attendant or article:

This subclass is indented under subclass 29. Vehicles which (a) are inherently unstable when in transport position but are stabilized by an attendant who propels and balances the vehicle by contacting the vehicle directly or contacting a handle or harness attached to the vehicle, (b) are inherently unstable when in transport position, are adapted to be temporarily attached to articles to transport them and are stabilized by some outside force (such as an attendant or other vehicle) contacting the article, or (c) are inherently unstable when in transport position but adapted to be stabilized by temporary attachment to articles for transporting them either because the articles has other wheels or because more than one of the unstable vehicles of this subclass are temporarily attached to the article.

(1) Note. An attendant is a person who is not an occupant of the vehicle under consideration.

(2) Note. A receptacle which is intended to be loaded or to have portions of the load removed therefrom while associated with the wheels of the unstable vehicle is considered to be a part of the vehicle, i.e., a removable vehicle body, rather than an article. An example, of such a receptacle is a golf bag.

SEE OR SEARCH THIS CLASS, SUBCLASS:

35, for extensible article supports.

43.1, for a vehicle having vertically adjustable ground engaging means and which is unstable when in transporting position but which is stabilized by an attendant or an article to which the vehicle is temporarily attached.

63+, and 78, for other vehicles normally traveling on two wheels and one wheel respectively and not stabilized by an article or attendant.

107, for running gear provided with means for retaining a vehicle body or load in position thereon.

200+, for occupant propelled vehicles stabilized by the occupant, e.g. bicycles.

47.15 This subclass is indented under subclass 47.131. Vehicles which are constructed (1) for attachment to a vehicle axle and/or to the spring means suspending said axle whereby a damaged vehicle may be moved to a desired place, or (2) for temporary attachment to a machine comprising a shaft having ground working or other tools thereon whereby such machine may be wheeled from place to place.

SEE OR SEARCH CLASS:

56, Harvesters, subclass 228 for transporting attachments for harvesters.

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 2+ for hoisting trucks, and subclasses 418+ for continuously attached vehicle jacks.

47.16 This subclass is indented under subclass 47.131. Vehicles which may be tiltably balanced by an attendant to either side of an intermediate wheel axis, and provided with wheel means adjacent each end spaced from the ground while the vehicle is being balanced which serve as stabilizing wheel means on which the carrier may rest or travel when the load body is tilted sufficiently to engage the wheel means at the one end or the other with the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.2, for handle propelled vehicles with auxiliary wheel means to selectively provide a tiltable or stable type load body.

47.17 This subclass is indented under subclass 47.131. Vehicles provided with handle means by which an attendant may apply a propelling force thereto.

(1) Note. Vehicles which are propelled by tongue or shaft means connected to running gear or body, if not disclosed or claimed for hand propulsion, are placed in the subclass providing for the running gear structure involved.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.34+, for handle-propelled vehicles which are stable and not ordinarily balanced against tilting by the attendant during propulsion.

63+, and 78, for tiltable load carriers, some having tongues or shafts connected to the running gear but not stabilized by an article or attendant.

124.12, for running gear of a general utility wheeled land vehicle including a resilient, shock absorbing mounted swinging axle having a draft connection not disclosed or claimed as a handle.

137.501, for running gear of a general utility wheeled land vehicle including a turnable axle having a draft connection, noting the search notes provided therein for additional relevant subclasses.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 110.1+ and see the Notes thereunder for vehicle handle structures, per se.

172, Earth Working, subclasses 329+ for earth working apparatus guided or propelled by a walking attendant.

47.18 This subclass is indented under subclass 47.17. Vehicles in which parts thereof (1) are adapted to be manipulated to convert the same to or

from a wheeled device other than one intended for transporting a load, e.g., the frame of a lawnmower, (2) in which the body comprises a plurality of different type load carrying portions each of which may be moved selectively to an operative transporting position, or (3) in which parts of the load body may be manipulated or detached to form load carrying bodies of different characters for transporting different types of loads.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.188, and 7.1+, for convertible velocipede type vehicles.

30+, for vehicles convertible to nonvehicular structures.

47.28, for vehicles with selectively usable loading toes or racks.

638+, for vehicles whose over-all dimensions may be varied substantially.

SEE OR SEARCH CLASS:

296, Land Vehicles: Bodies and Tops, subclasses 10+ for convertible load bodies, per se.

47.19 This subclass is indented under subclass 47.17. Vehicles provided with plural simultaneously usable distinct load supports which may take the form of plural platforms, receptacles, compartments or seats, or combinations thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.35, for similar plural load supports for stable handle-propelled vehicles.

SEE OR SEARCH CLASS:

211, Supports: Racks, appropriate subclasses for portable rack type supports for plural articles.

47.2 This subclass is indented under subclass 47.17. Vehicles provided with auxiliary wheel means so positioned or mounted as to be selectively brought into ground engagement to render the vehicle stable.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.32, for stair or other obstruction climbing vehicles having fulcrums with wheel means about which the vehicle may be tilted.

47.16, for vehicles tiltable to either side of an intermediate wheel axis to selectively bring into ground engagement auxiliary stabilizing wheel means at either end.

767, for other auxiliary wheels for vehicles.

47.21 This subclass is indented under subclass 47.17. Vehicles in which the axle or axles about which the body is tiltable are shiftable or adjustable to vary the axle and wheel position relative to the body or to the center of gravity of its load, either to facilitate loading or transporting the load.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.151+, for a vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame for the proximate utility of facilitating cargo movement.

43+, for wheels adjustable to vary the elevation of the load frame.

47.16, and 47.2, for vehicles with auxiliary wheels shiftable to and from a ground engaging position to provide alternate wheel bases.

47.22 This subclass is indented under subclass 47.21. Vehicles in which relative shifting of the axle or axles occurs because of the presence of a spring.

SEE OR SEARCH THIS CLASS, SUBCLASS:

65+, 79 and 87.03, for similar springing between wheel or wheels and the load-support.

47.23 This subclass is indented under subclass 47.17. Vehicles in which a portion or all of the load supporting base of the frame or vehicle body is either suspended from the axle means or otherwise disposed below the wheel axis, as for example by support in the bight of a “U-shaped” or “drop” axle. The load base or body portion must be positioned below a horizontal plane including the wheel axis at all times in

normal use of the carrier, both when the carrier is at rest and in transporting position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2, for similar body and wheel axis relations in vehicles which are not article or attendant stabilized or handle propelled.

6.151+, for a vehicle including means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame for the proximate utility of facilitating cargo movement which may entail lowering the cargo support surface below the usual running gear level.

43.11, for a vehicle having a vertically adjustable wheel the axis of which may be moved to a position above the load carrying surface of the vehicle.

SEE OR SEARCH CLASS:

296, Land Vehicles: Bodies and Tops, subclass 25 for bodies with dropped bottoms.

47.24 This subclass is indented under subclass 47.17. Vehicles which have wheels spaced apart in a direction laterally of the direction of movement of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

63+, for other vehicles normally traveling on two wheels and not stabilized by an article or attendant.

47.25 This subclass is indented under subclass 47.24. Vehicles with a single seat for an occupant.

(1) Note. Most of the patents in this subclass comprise children's carts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.5, for vehicles supporting workers adjacent to the ground.

47.19, for tiltable vehicles with plural seats.

47.35, for stable hand propelled vehicles with plural seats.

47.38+, for stable hand propelled vehicles with a single seat.

47.26 This subclass is indented under subclass 47.24. Vehicles comprising a container which acts as a body for the vehicle.

(1) Note. The container of this subclass is intended to be loaded while associated with the wheels to form a vehicle.

(2) Note. A golf bag attached to a wheeled frame is considered to be a receptacle body type vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79.2+, for platform type trucks with receptacle-type bodies.

SEE OR SEARCH CLASS:

248, Supports, subclass 96 for supports adapted to be secured to and/or support a golf bag, and subclass 98 for bag supports having wheels.

298, Land Vehicles: Dumping, subclasses 2+ and 5+ for this type vehicle provided with receptacle bodies movable relative to the vehicle frame to facilitate dumping or for vehicles provided with bodies having a gate or cover adapted to be actuated in connection with the dumping operation.

47.27 This subclass is indented under subclass 47.24. Vehicles having means usually referred to as a toe, extending from the lower part of the vehicle frame at an angle relative thereto to form a projecting load engaging or load stop part which is adapted, when the vehicle frame is tilted to a loading position, to engage or be brought closely to the surface on which the vehicle travels so as to enable said part to be pushed beneath a load to facilitate manual lifting and tilting of the load about the axis of the wheels.

(1) Note. Most of the patents in this and the indented subclasses comprise vehicles of the well known “Warehouse Truck” type.

SEE OR SEARCH CLASS:

414, Material or Article Handling, subclasses 444+ for similar devices having additional load engaging means,

as a clamp or tie, as distinguished from a mere load supporting toe in the form of a platform, spade or the like, for taking hold of the load to facilitate the picking up and transporting of the load

47.28 This subclass is indented under subclass 47.27. Vehicles which are provided with an auxiliary toe, shelf or rack means which is positioned adjacent to the main toe and movably related thereto.

47.29 This subclass is indented under subclass 47.27. Vehicles in which the toe means is adjustable or otherwise movable relative to the frame on which it is mounted.

47.3 This subclass is indented under subclass 47.17. Vehicles which are disclosed as having only a single wheel or roller.

(1) Note. A plurality of single wheel vehicles secured to an article may be classified in this subclass, provided at least one vehicle has a propelling handle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.32, and 78, for other one wheeled vehicles of this class.

47.31 This subclass is indented under subclass 47.3. Vehicles providing a receptacle body.

(1) Note. Most of the vehicles in this subclass are wheelbarrows.

(2) Note. A golf bag attached to a vehicle is considered a receptacle body.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.23, for vehicles of this type with a portion or all of the receptacle body below the level of the wheel axis at all times in the normal use of the vehicle.

47.26, for handle propelled receptacle body vehicles with laterally spaced wheels.

SEE OR SEARCH CLASS:

298, Land Vehicles: Dumping, subclass 3 for dumping vehicles having one wheel.

47.315 Adjustable handle:

This subclass is indented under subclass 47.17. Vehicles where the handle may be moved selectively between different use positions.

SEE OR SEARCH THIS CLASS, SUBCLASS:

655.1, for an extensible vehicle wherein only a handle member thereof is collapsible.

47.32 This subclass is indented under subclass 47.131. Vehicles which are provided with only a single wheel or roller.

(1) Note. A plurality of the vehicles of this subclass may be used to transport an article.

SEE OR SEARCH THIS CLASS, SUBCLASS:

78, for one wheel vehicles not stabilized by an article or attendant.

47.33 This subclass is indented under subclass 47.131. Vehicles having leg structures for supporting them in rest position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

293+, for attachments to an occupant propelled-type wheeled land vehicle (it is noted that in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses).

763.1+, for attachments to a general utility wheeled land vehicle providing auxiliary ground support when the vehicle is in a rest condition.

47.331 Boat carrier:

This subclass is indented under subclass 47.131. Vehicles in the form of an attachment to a boat to facilitate its transportation over land.

(1) Note. Attachments with mere nominal recitation of boat structure, necessary only to associate the attachment to the boat should be classified here. If signifi-

cant boat structure is claimed and necessary, as where the wheel will remain with the boat after launching, then proper classification is in Class 114.

SEE OR SEARCH THIS CLASS, SUBCLASS:

414.2, where the attached devices include means to form an articulated vehicle, such as by the inclusion of a trailer tongue.

SEE OR SEARCH CLASS:

114, Ships, subclass 344 for wheeled attachment which remain with the boat and in which the attachment pierces or otherwise cooperates with specifically formed boat structure, and where the attachment includes flotation devices to facilitate handling in the water.

244, Aeronautics, subclass 101 for landing gear attached to seaplanes where significant plane structure is claimed.

47.34 This subclass is indented under subclass 29. Vehicles which are stable when travelling and specially characterized as being provided with a handle means whereby the vehicle may be propelled by an attendant.

(1) Note. Vehicles with tongues or shafts not disclosed or claimed for hand propulsion are placed in the subclass providing for the running gear structure involved.

SEE OR SEARCH THIS CLASS, SUBCLASS:

33.991+, for interfitting or nesting vehicles which may or may not include a handle.

47.11, for a general utility wheeled land vehicle including wheel steering by an attendant wherein the wheel steering affects other than a mere swinging axle.

47.17+, for handle propelled unstable vehicles stabilized by an article or attendant.

124.12, for running gear of a general utility wheeled land vehicle including a resilient, shock absorbing mounted swinging axle having a draft connection neither disclosed or claimed as a handle nor claimed in a combination of plural interconnected vehicles (i.e., a vehicle train).

137.501, for running gear of a general utility wheeled land vehicle including a turnable axle having a draft connection, noting the search notes provided therein for additional relevant subclasses.

400+, for an articulated vehicle or plural interconnected vehicles (i.e., vehicle train) which may or may not include a handle.

655.1, for an extensible vehicle wherein only a handle member thereof is collapsible.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 110.1+, and see the Notes thereunder for vehicle handles, per se.

172, Earth Working, subclasses 329+ for earth working apparatus guided or propelled by a walking attendant.

47.35 This subclass is indented under subclass 47.34. Vehicles provided with plural simultaneously usable distinct load supports which may be in the form of plural platforms, receptacles, compartments or seats, or combinations thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.19, for plural load supports on handle propelled vehicles stabilized by an article or attendant.

79.2+, for plural load supports on vehicles having bracketed type or nonsuspended axles.

SEE OR SEARCH CLASS:

211, Supports: Racks, appropriate subclasses for portable rack type supports for plural articles.

47.36 This subclass is indented under subclass 47.34. Vehicles in which the handle is specially adapted to be shiftable to a position at either end.

47.371 Adjustable handle:

This subclass is indented under subclass 47.34. Vehicles where the handle may be moved selectively to different use positions.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.36, for reversible handles on stable vehicles for use at either end of the vehicle.

47.315, for adjustable handles on tilting vehicles.

655.1, for handles folded out of the way so as to change the vehicle to a nonuse configuration.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclass 429 for adjustable handles, per se.

56, Harvesters, Digest 18 for adjustable handles in combination with a harvester device such as a lawn mower.

47.38 This subclass is indented under subclass 47.34. Vehicles provided with means for seating occupants, the vehicles in this and the indented subclasses being usually of the "Baby Carriage" type.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.5, for vehicles seating workers near the ground.

47.19, for tiltable vehicles with plural seats or a single seat and a load support.

47.25, for tiltable vehicles with a single seat.

47.35, for stable, handle propelled vehicles with plural seats or a single seat and a load support.

62, 63+ and 79, for occupant carrying vehicles having running gear as specified in the respective subclasses in which either no handle is provided or tongues and shafts for other than hand propulsions are disclosed.

87.01+, for coasters.

639+, for extensible vehicles including baby carriages of the folding type.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 166 for a vehicle in the nature of a wheeled infant carriage or crib having motor means for moving it back and forth in the direction of its longitudinal axis (e.g., for inducing the infant to sleep); if used alternatively to transport the infant from one place to another, the vehicle ordinarily is propelled by an attendant.

296, Land Vehicles: Bodies and Tops, appropriate subclasses for vehicle bodies where no running gear is claimed or where the running gear is claimed by name only and where no propulsion handle is claimed.

47.39 This subclass is indented under subclass 47.38. Vehicles in which the body is mounted to be reversible end for end.

47.4 This subclass is indented under subclass 47.38. Vehicles in which a back or foot rest or both are specially modified in connection with the seating means, and generally provide for relative adjustment whereby the occupant may be selectively accommodated in either a lying or sitting position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31, for vehicles convertible to cribs or cradles.

47.41 This subclass is indented under subclass 47.38. Vehicles in which the body is supported by means, generally springs, either directly connected to the wheel axle means or connected to members attached thereto, whereby the body may have movement relative to the wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, and see the search notes thereunder, for vehicles with springs.

62 This subclass is indented under subclass 29. Vehicles normally traveling on three wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.34+, for stable hand propelled vehicles which may be provided with three wheels.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 210+ for a motor vehicle having a wheel arrangement comprising three wheels.

63 This subclass is indented under subclass 29. Vehicles normally traveling on two wheels.

(1) Note. "Sulkies" and "gigs" are included in this group.

SEE OR SEARCH THIS CLASS, SUBCLASS:

40, and 47.131+, for other two wheeled vehicles.

43.1, for a vehicle having vertically adjustable ground engaging means and which is unstable when in transporting position but which is stabilized by an attendant or an article to which the vehicle is temporarily attached.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 218+ for a motor vehicle having a wheel arrangement comprising two wheels.

64 This subclass is indented under subclass 63. Vehicles in which the wheels are adjustable during the vehicle travel, usually to turn or to "bank" them on curves.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.52+, for a land vehicle including a suspension responsive to a force encountered while the vehicle is in surface traversing motion for altering a spatial relationship between structural elements of the running gear which may or may not involve wheel banking.

98+, for vehicles running gear especially constructed for short turning.

200+, for an occupant propelled-type wheeled land vehicle which may or may not involve wheel banking (it is noted that in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses).

771+, for occupant steered vehicles.

65 This subclass is indented under subclass 63. Vehicles provided with springs between the wheels and the load-carrier.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, and see search notes thereto.

SEE OR SEARCH CLASS:

267, Spring Devices, appropriate subclasses, for vehicle spring devices, per se.

66 This subclass is indented under subclass 65. Vehicles in which the thills are connected to the axle.

67 This subclass is indented under subclass 66. Vehicles in which the spring is interposed between the axle and thill.

68 This subclass is indented under subclass 67. Vehicles in which the vehicle load-carrier is supported solely by the thills.

SEE OR SEARCH THIS CLASS, SUBCLASS:

70+, for vehicles with thill mounted body but no interposed spring.

69 This subclass is indented under subclass 67. Vehicles in which the vehicle load-carrier is supported solely by the axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

72+, for vehicles with axle mounted body but no interposed spring.

70 This subclass is indented under subclass 66. Vehicles in which the vehicle load-carrier is supported solely by the thills.

SEE OR SEARCH THIS CLASS, SUBCLASS:

68, for similar vehicles having a spring interposed between the thill and axle.

71 This subclass is indented under subclass 70. Vehicles provided with adjustments to accommodate various loads or draft-animals.

72 This subclass is indented under subclass 66. Vehicles in which the vehicle load-carrier is supported solely by the axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

69, for similar vehicles having a spring interposed between the thill and axle.

73 This subclass is indented under subclass 72. Vehicles provided with adjustments to accommodate various loads or draft-animals.

74 This subclass is indented under subclass 66. Vehicles provided with adjustments to accommodate various loads or draft-animals.

75 This subclass is indented under subclass 65. Vehicles in which the thills are attached to and the draft is exerted through the vehicle-body.

76 This subclass is indented under subclass 75. Vehicles provided with adjustments to accommodate various loads or draft-animals.

77 This subclass is indented under subclass 65. Vehicles provided with adjustments to accommodate various loads or draft-animals.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71, 73, 74, and 76, for other vehicle adjustments for various loads or draft animals.

SEE OR SEARCH CLASS:

278, Land Vehicles: Animal Draft Appliances, subclass 1 for vehicles where the adjustment is solely in the thills or their attachment to the vehicle.

78 This subclass is indented under subclass 29. Vehicles normally traveling on one wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

43.1, for a vehicle having vertically adjustable ground engaging means and which is unstable when in transporting position but which is stabilized by an attendant or an article to which the vehicle is temporarily attached.

47.3+, 47.32 and 205+, for other one wheel vehicles.

84, for one wheel tongue trucks.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 13 for one wheel motor carrying attachments for vehicles.

79 This subclass is indented under subclass 29. Vehicles provided with springs between the wheel or wheels and the load-support.

SEE OR SEARCH THIS CLASS, SUBCLASS:

11.14, for skates with resilient foot supports.

11.28, for skates with resilient trucks and mountings.

25, for sleds with springs.

47.22, for tiltable handle propelled vehicles with spring suspension.

47.41, for stable handle propelled occupant seating type with springs.

65+, for two wheel vehicles having springs.

80.1+, for particular wheeled land vehicle running gear construction. Attention is directed to subclass 86.1 for a swivel truck resiliently supported upon the vehicle; subclasses 124.1+ for resilient, shock absorbing suspension arrangements in general; subclasses 676+ for tandem axle suspensions; or subclasses 781+ for a wheeled land vehicle including specific frame construction and its running gear.

87.03, for yieldable occupant pushed coasters.

184, for spring clamp rein holders.

275+, for a wheeled land vehicle of occupant propelled type including steering having a yielding frame and running gear (it is noted that in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses).

283+, for a wheeled land vehicle of occupant propelled type including a yielding frame and running gear lacking steering.

483+, for resilient draft devices for vehicle trains.

SEE OR SEARCH CLASS:

267, Spring Devices, appropriate subclasses, for vehicle spring devices, per se.

79.11 Body with bracketed-type or nonsuspended axles (e.g., platform type):

This subclass is indented under subclass 29. Vehicles in which (a) each wheel axle is attached to a platform or other type body solely by means of a bracket type support, or in which (b) each axle or axle bearing is secured directly to the body itself, without the interposition of shock absorbers.

(1) Note. Vehicles having platform type bodies and generally known as "Baggage" trucks are found in this subclass.

(2) Note. Patents in this subclass must have some positive inclusion of specialized body structure so as to receive and transport a load as a vehicle. The primary function of the claimed device must be transporting as opposed to merely supporting.

SEE OR SEARCH THIS CLASS, SUBCLASS:

32.6, for repairmen's creepers.

47.11, for an attendant steered wheeled land vehicle for other than a mere swinging axle.

47.34, for stable load supporting vehicles which are handle propelled.

47.131, for unstable bodies, which when supporting a load become stable.

62, 63+ and 78, for similar vehicles restricted to the running gear respectively specified.

80.1+, for particular wheeled land vehicle construction directed to that portion immediately concerned with enabling the wheeled land vehicle to move along the surface. Attention is directed to subclass 86.1 for a swivel truck resiliently supported upon the vehicle; subclasses 124.1+ for resilient, shock absorbing suspension arrangements in general; subclasses 676+ for tandem axle suspensions; or subclasses 781+ for a wheeled land vehicle including specific frame construction and its running gear.

87.01+, for "coaster" vehicles with similar running gear attachments, most of which have tongues or shafts.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 18+ for casters, per se.

108, Horizontally Supported Planar Surfaces, subclasses 51.11+ for pallets.

211, Supports: Racks, subclasses 134+ for shelved racks.

79.2 This subclass is indented under subclass 79.11. Vehicles in which the body is in the form of a container or for occupant seating.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.38, for handle propelled occupant seating vehicles, and see the search notes thereto.

79.3 This subclass is indented under subclass 79.11. Vehicles in which the body is of the open upright frame type, usually providing a load support in the form of brackets, racks, shelves or trays.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.19, and 47.35, for plural load support handle propelled vehicles.

SEE OR SEARCH CLASS:

108, Horizontally Supported Planar Surfaces, appropriate subclasses for a horizontal planar support having plural or single surfaces which may be provided with wheels or casters to render it incidentally movable.

211, Supports: Racks, appropriate subclasses for open or rack type structures per se, which may have wheels to render them incidentally movable.

296, Land Vehicles: Bodies and Tops, subclasses 3+ for rack type vehicle bodies for special loads.

79.4 Wheel or tire support body:

This subclass is indented under subclass 79.11. Vehicles with attachments or particular body structure configured to support the tire or wheel of another vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

402, for a vehicle train wherein a trailing vehicle is supported upon the leading vehicle including structure configured to support the tire or wheel of the supported, trailing vehicle.

476.1, for a wheeled draft connection interconnecting plural wheeled land vehicles.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 28 for wheel lifters.

414, Material or Article Handling, subclasses 426+ for wheel handlers which include some manipulation of the wheel in addition to mere transport.

79.5 Bucket or can support body:

This subclass is indented under subclass 79.11. Vehicles which include attachments or specifically shaped body structure for carrying cylindrical objects with their axis extending vertically.

SEE OR SEARCH CLASS:

248, Supports, subclasses 95+ for can supports and bag holders.

79.6 Cylindrical objects with elongated horizontal axis support body:

This subclass is indented under subclass 79.11. Vehicles which include attachments or specifically shaped body structure for receiving cylindrical objects with their axis horizontally.

(1) Note. This subclass includes wheeled cradles for rugs and other roll goods.

79.7 Vertically elongated rectangular object support body:

This subclass is indented under subclass 79.11. Vehicles which include attachments or specifically shaped body structure for receiving panels and other sheet goods, or other rectangular objects of little thickness, on their sides.

80.1 Running gear:

This subclass is indented under subclass 29. Vehicles with special reference to that portion of the vehicle which is immediately concerned in enabling it to be moved along the surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.512, for a kingpin, steering knuckle, steering arm, or wheel carrier construction for an occupant controlled steerable road wheel comprising a stub axle.

124.1+, for resilient, shock absorbing suspension arrangements in general.

274+, for a wheeled land vehicle of occupant propelled type including steering having a frame and running gear (it is noted that in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses).

281.1+, for a wheeled land vehicle of occupant propelled type including a frame and running gear lacking steering.

419, for a vehicle train wherein each of the interconnected vehicles includes steerable wheels and a steering means connection is provided therebetween for simultaneous movement of the relative steerable wheels.

426, for an articulated vehicle of semitrailer construction wherein the trailer includes steerable wheels which are controlled through the articulative movement between the tractor and the semitrailer.

442+, for a vehicle train including steerable wheels of other than a mere swinging axle.

676+, for tandem axle suspensions.

781+, for a wheeled land vehicle including specific frame construction and its running gear.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 1+ for resilient wheels.

172, Earth Working, subclasses 669+ and the subclasses there cited, for earth working apparatus with a wheel frame.

180, Motor Vehicles, subclasses 21+ for motor vehicles with special wheel base.
301, Land Vehicles: Wheels and Axles, for wheeled and nonwheeled implement frames.
305, Wheel Substitutes for Land Vehicles, for wheel substitutes.

81.1 Multiple truck:
This subclass is indented under subclass 80.1. Vehicles having running gear composed of a plurality of sets of supporting wheels, the wheels of each set being so mounted as to constitute a substantially complete running gear unit.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 22+ for motor vehicles which have wheel bases comprising five or more wheels.

81.5 This subclass is indented under subclass 81.1. Vehicles provided with means for steering the vehicle by the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
771+, for occupant steered vehicles.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 400+ for motor vehicle steering devices.

81.6 Self-steered trucks:
This subclass is indented under subclass 81.1. Vehicles in which the steering occurs in response to a deviation of the body from movement in a straight line to permit the trucks to turn for proper tracking.

SEE OR SEARCH THIS CLASS, SUBCLASS:
442+, for devices wherein the steering is due to an articulative linkage.

82 This subclass is indented under subclass 80.1. Devices specially adapted to support and guide the tongue of a vehicle.

(1) Note. These trucks are usually used for the tongue of such agricultural machinery as harvesters to eliminate "side draft."

83 This subclass is indented under subclass 82. Devices which are adjustable to vary the height of the tongue.

SEE OR SEARCH THIS CLASS, SUBCLASS:
43+, and see the notes thereto.

84 This subclass is indented under subclass 82. Devices normally traveling on one wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
78, and see the notes thereto.

SEE OR SEARCH CLASS:
16, Miscellaneous Hardware, subclasses 18+ for casters.
384, Bearings, subclasses 428+ for bearing mounting, or supports.

85 This subclass is indented under subclass 82. Devices in which the axle is mounted for pivotal swinging movement about a vertical axis and rocking movement about a horizontal axis normal to its length.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124.114+,for a general utility wheeled land vehicle having a pivotally mounted axle or axle assembly having horizontal rocking and vertical swinging motion.

86 This subclass is indented under subclass 80.1. Vehicle in which a wheel or plural wheels are rotatably mounted upon an axle supported at both ends by a bracket or framing which is attached to the vehicle body, chassis, or frame about a vertical pivot axis for free pivotal motion.

(1) Note. An apparatus including means for creating pivotal motion for steering purposes is excluded from this subclass and the subclasses indented hereunder.

SEE OR SEARCH THIS CLASS, SUBCLASS:
81.1, for running gear comprising multiple trucks.

82+, for a swivel truck specifically provided to support and guide a draft connection or tongue of a vehicle.

93.504+, for a general utility wheeled land vehicle including occupant controlled steering of a swinging axle.

124.117+, for a general utility wheeled land vehicle including a vertical pivot axis mounted axle or axle assembly having resilient, shock absorbing means.

137.5+, for a general utility wheeled land vehicle including a turnable axle lacking resilient, shock absorbing means.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 18+ for casters.

86.1 Including resilient mounting:

This subclass is indented under subclass 86. Subject matter wherein the swivel truck is resiliently supported to the vehicle body, chassis, or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, for a vehicle including a spring interposed between the wheel or wheels and the load-support, noting the search notes provided thereunder for other relevant subclasses.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclass 44 for spring supported casters.

86.5 Auxiliary axle assembly (e.g., lift or tag axle):

This subclass is indented under subclass 80.1. Subject matter wherein the vehicle includes a selectively employed supplemental running gear unit to assist primary running gear units when transporting an extra heavy or oversize load.

(1) Note. The supplemental running gear unit must be movable between a use and nonuse position upon the vehicle, not merely an additional running gear unit such as commonly known tandem axles or wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.157+, for a vehicle suspension provided with means for establishing riding or trim height which may or may not involve the deployment of an auxiliary axle.

9+, for a vehicle having both a wheel and runner provided with means for moving either the wheel or runner to an inoperative position.

28.16, for a runner equipped vehicle provided with an auxiliary runner structure.

104+, for a vehicle provided with means for transmitting weight from the running gear to the wheels on different axles in substantially equal proportion regardless of inequalities of the travelled surface. Conventionally known tandem axle and wheel arrangements are included in these subclasses.

149.2, for a vehicle having longitudinally shiftable running gear.

405.1+, for an articulated vehicle or vehicle train including means for selectively adjusting the proportion or the longitudinal placement of load application between the vehicle sections or the interconnected vehicles.

638+, for a vehicle constructed in such manner so as to allow the physical dimension of the vehicle, or a part thereof, to vary or change, especially subclasses 43+ for vertically adjustable wheels.

767, for a vehicle provided with an auxiliary or substitute wheel for assuming the weight of the vehicle when either the tires, wheels, or axles thereof are disabled for any reason.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclass 24.02 for a vehicle of that class (Class 180) having five or more wheels and provided with movable running gear for shifting or proportioning load; or subclass 209 for a vehicle having a special wheel base as defined in Class 180, subclass 21, which further includes means for changing the number or position of supporting wheels.

86.75 Alignment adjustment:
This subclass is indented under subclass 80.1. Subject matter wherein the vehicle running gear includes means enabling static alteration of a spatial relationship of the running gear upon the vehicle.

(1) Note. Included herein are means enabling alteration of the spatial relationship of either an axle or a wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.52+, for alteration of running gear geometry which is caused to occur in response to a force encountered while the vehicle is in surface traversing motion.

SEE OR SEARCH CLASS:
33, Geometrical Instruments, subclasses 203+ for a wheel alignment gauge, subclasses 335+ for a vehicle running gear inclination gauge, or subclass 608 for a frame alignment gauge.

86.751 Camber or caster:
This subclass is indented under subclass 86.75. Subject matter wherein the spatial alteration comprises an inclination or tilt of (a) a wheel relative to the ground surface as measured in degrees from true vertical (i.e., camber) or (b) a steering axis relative to the center line of the wheel as measured in degrees from true vertical (i.e., caster).

(1) Note. Camber is the tilting inward (negative camber) or outward (positive camber) of the top of the wheel as viewed from the front of the vehicle.

(2) Note. Caster is the tilting forward (negative caster) or backward (positive caster) of a line extending through upper and lower ball joints or a kingpin as viewed from the side of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.521, for a suspension wherein camber or caster adjustment is caused to occur in response to a force encountered while the vehicle is in surface traversing motion.

86.752 Vertical strut to tower:
This subclass is indented under subclass 86.751. Subject matter wherein the camber or caster alteration is achieved through an adjustable attachment at the vehicle body, chassis, or frame of an upper end of an erect member extending between the wheel or wheel carrier and the vehicle body, chassis, or frame.

SEE OR SEARCH CLASS:
267, Spring Devices, subclasses 217+ for upper strut mount constructions of that class (Class 267), especially subclass 220 for elastomeric coupling means.

86.753 Shim (e.g., cam):
This subclass is indented under subclass 86.751. Subject matter wherein the camber or caster alteration is achieved through an interposed, replaceable, or shiftable wedge element of the running gear.

SEE OR SEARCH CLASS:
384, Bearings, subclass 626 for a bearing shim, per se.

86.754 Eccentric coupling:
This subclass is indented under subclass 86.751. Subject matter wherein the camber or caster alteration is achieved through an asymmetric union within the running gear.

(1) Note. Only true asymmetric unions will be found in this and the indented subclasses. An asymmetric union achieved or assisted through the use of an interposed, replaceable, or shiftable wedge element is not proper for this and the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86.753, for camber or caster alteration which is achieved or assisted through the use of an interposed, replaceable, or shiftable wedge element.

86.755 Including tool means:
This subclass is indented under subclass 86.754. Subject matter wherein an applied instrument is employed to influence the alteration of the asymmetric union.

86.756 Ball joint or bushing:
This subclass is indented under subclass 86.754. Subject matter wherein a spherical coupling member (i.e., ball joint) or a resilient coupling member (i.e., bushing) is employed in the asymmetric union.

86.757 Adjustable control rod:
This subclass is indented under subclass 86.751. Subject matter comprising an alterable elongate link or member between the wheel or wheel carrier and the vehicle body, chassis, or frame to achieve camber or caster adjustment.

(1) Note. The alteration of the elongate link or member may be an extension or a repositioning of the link or member to achieve the camber or caster adjustment.

86.758 Steerable wheel toe:
This subclass is indented under subclass 86.75. Subject matter comprising an adjustment in a difference in distance between extreme front and rear edges of laterally opposed, pivotally navigatable wheels relative to the longitudinal axis of the vehicle.

(1) Note. “Toe-in” results when the distance difference for the extreme front edges is smaller than for the extreme rear edges. “Toe-out” results when the distance difference for the extreme front edges is greater than for the extreme rear edges.

(2) Note. Toe adjustment for a nonsteerable wheel is not included within this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.522+, for a suspension wherein toe adjustment is caused to occur in response to a force encountered while the vehicle is in surface traversing motion.
86.75, for toe adjustment for a nonsteerable wheel.

87.01 This subclass is indented under subclass 29. Vehicles comprising small vehicles for children's use, intended as wheeled coasters. Includes patents showing the type of vehicle known as “scooter-wagons”.

SEE OR SEARCH THIS CLASS, SUBCLASS:
12+, for coaster sleds.
7.1, and 827, for simulations of this type and such vehicles convertible to other types.

SEE OR SEARCH CLASS:
297, Chairs and Seats, subclasses 5+ for a wheeled skater support or walker pushed ahead of the walker or skater and provided with a seat used by the occupant for resting between periods of walking or skating.
482, Exercise Devices, subclasses 51+ for an exercise device involving user translation or a physical simulation thereof, particularly subclasses 66+ for an occupant support frame having a movement facilitating feature for foot travel.

87.021 Occupant-pushed:
This subclass is indented under subclass 87.01. Vehicles which are specially designed to be pushed along by contact of the occupant's hands or feet with the surface over which the vehicle travels.

SEE OR SEARCH THIS CLASS, SUBCLASS:
23.1, for push type sleds.
32.6, for repairman's creepers.

87.03 This subclass is indented under subclass 87.021. Vehicles in which the vehicle is made to yield under the weight of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
79, and see the search notes thereto.

87.041 Standing occupant:
This subclass is indented under subclass 87.021. Vehicles which are designed to be pushed along by a standing occupant (i.e., scooters).

87.042 Steered by tiltable platform (e.g., skateboard):
This subclass is indented under subclass 87.041. Vehicles where steering is achieved by inclining the occupant supporting platform.

(1) Note. These devices may be scooters with a post, but without rotation of the wheels by manipulation of the post. More typically vehicles in this subclass are skateboards.

87.043 Rear steering platform on coaster wagon:
This subclass is indented under subclass 87.041. Vehicles where wheel steering is accomplished by manual manipulation of a steering device accessible to a standing occupant at the trailing end of the vehicle.

(1) Note. The rear steering station may be in addition to a front steering device manipulated by a first, usually sitting, occupant.

87.05 This subclass is indented under subclass 87.021. Vehicles which are extensible or knockdown.

SEE OR SEARCH THIS CLASS, SUBCLASS:
278, 287, and 638+, for other extensible or knockdown vehicles.

87.051 Baby walker:
This subclass is indented under subclass 87.021. Vehicles for supporting an infant or toddler who propels the vehicle.

(1) Note. The vehicle has no steering mechanism but is merely pushed in a desired direction.

SEE OR SEARCH THIS CLASS, SUBCLASS:
87.03, for a baby walker with a spring suspension enabling bouncing.
827+, for simulations.

SEE OR SEARCH CLASS:
297, Chairs and Seats, appropriate subclasses for specific seats, per se.
472, Amusement Devices, particularly subclass 15 for an occupant propelled roundabout used as a trainer for foot travel.
482, Exercise Devices, particularly subclasses 66+ for an occupant support frame having a movement facilitating feature for foot travel.
D12, Transportation, subclass 130 for baby walker designs.

87.1 This subclass is indented under subclass 771. Devices operated by the foot of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
265, for foot steered occupant propelled vehicles.

87.2 This subclass is indented under subclass 771. Devices in which the steering gear controls a wheel which is offset from the main running gear of the vehicle and which does not support any appreciable weight of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
442+, for articulated vehicles with wheel steering by articulative movement.

SEE OR SEARCH CLASS:
104, Railways, subclass 244.1 for vehicles with furrow followers which may be connected to the steering gear of a vehicle and which are usually outrigged from the vehicle. In the devices classified in Class 104 the follower (usually a wheel) running in the furrow guides the vehicle, and to do this may be connected to the steering gear of the vehicle, with the result that the steering gear of the vehicle may control the wheel running in the furrow. In these devices the steering gear has a branch running to the main steered wheels of the vehicle and a branch running to the furrow following wheel so that this wheel and the main vehicle wheel are steered together. In the type of device classifiable in Class 280 the steering gear runs to the outrigged wheel (which may be a furrow following wheel) to control that wheel which by its turn-

ing movement caused the main vehicle wheels to follow without any interconnection with the steering gear.

172, Earth Working, subclass 26 for an earth working device guided by a wheel running in a furrow, and subclasses 278+ for an earth working device with wheel steering means.

180, Motor Vehicles, subclass 401 for a motor vehicle provided with steering gear which includes a land based steering datum and means on the vehicle for sensing the datum, which means cooperates with a steering motor on the vehicle for the purpose of controlling the course of the vehicle.

88 This subclass is indented under subclass 771. Vehicles in which the steering-gear is associated with brake mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:

264, for occupant propelled vehicles having similar steering and braking means.

89 This subclass is indented under subclass 771. Vehicle including means for inhibiting or prohibiting unintended variant operation due to road surface irregularity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

108, for tongue antivibrators.

268, for an occupant propelled-type wheeled land vehicle including means for holding or returning two steered wheels to a centered or straight line travel orientation (it is noted that in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses).

271, for an occupant propelled-type wheeled land vehicle including means for holding or returning a single steered wheel to a centered or straight line travel orientation.

89.1 Stub axle supported wheels:
This subclass is indented under subclass 89. Subject matter including mechanism inhibiting or prohibiting unintended variant operation of laterally opposed steerable road wheels mounted upon a limited length shaft (i.e., stub axle) due to road surface irregularities encountered during travel.

(1) Note. Included herein are shimmy or wobble inhibiting or prohibiting mechanisms.

89.11 Center or neutral angulation:
This subclass is indented under subclass 89.1. Subject matter wherein the steerable road wheels are (a) restrained in or (b) returned to a straight-line travel position.

(1) Note. Patents properly classified herein require sufficient resistive or restorative force to preclude unintended variant excursion of the steerable road wheels from straight-line travel position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

268, for an occupant-propelled-type wheeled land vehicle including means for holding or returning two steered wheels to a centered or straight line travel orientation. Further, in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in theses subclasses.

89.12 Linkage member or attachment:
This subclass is indented under subclass 89.1. Subject matter wherein the inhibiting or prohibiting mechanism is (a) included within or (b) connected to a mechanical link element interconnecting a steering knuckle of a steerable road wheel to a drag link, an idler arm, a pitman arm, or a steering knuckle of a laterally opposed steerable road wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

89.1, for inhibiting or prohibiting mechanism interconnecting a steering

knuckle of a steerable road wheel to stationary vehicle structure or other movable vehicle structure neither performing nor providing a steering feature.

89.11, for inhibiting or prohibiting mechanism intended to restrain or return the steerable road wheels to center or neutral angulation which may or may not involve a mechanical link element or attachment.

89.13 Fluid:

This subclass is indented under subclass 89.12. Subject matter comprising either a gaseous or liquid flowable medium providing the resistive force.

SEE OR SEARCH THIS CLASS, SUBCLASS:

90, for a fluid check device not included within or connected to a mechanical link element within a stub axle supported occupant controlled steering gear arrangement.

90 This subclass is indented under subclass 89. Devices in which the checking means comprises a fluid mechanism.

SEE OR SEARCH CLASS:

188, Brakes, subclasses 266+ for a fluid-resistance brake or dashpot of general utility.

91.1 Four-wheel controlled:

This subclass is indented under subclass 771. Subject matter wherein the steering means controls four supporting wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

99+, for four-wheel controlled short turning vehicles.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 234+ for a motor vehicle having four wheels driven and provided with means for steering all of the driven wheels, and subclasses 409+ for a motor vehicle wherein all of the power for steering the wheels is provided by the occupant.

92 This subclass is indented under subclass 771. Vehicles in which the steering gear controls but one supporting wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

270+, for occupant propelled vehicles controlled by one wheel.

93.5 Monitoring or indicating means:

This subclass is indented under subclass 771. Subject matter including means for registering or signaling operation or a position of the steering means or the steerable road wheels.

93.501 Neutral position:

This subclass is indented under subclass 93.5. Subject matter wherein the monitoring or indicating means registers or signals normal straight-line travel of the vehicle.

93.502 Linkage:

This subclass is indented under subclass 771. Subject matter wherein the running gear provided with steering means operable by the occupant of the vehicle includes mechanical interconnecting elements for translating motion of a steering control manipulated by the occupant of the vehicle into pivoting movement of steerable road wheels for executing arcuate travel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.11, for a vehicle steered by an attendant located external to the vehicle rather than an occupant of the vehicle for other than a mere swinging axle.

47.34+, for a stable, handle-propelled vehicle which may or may not include steering means.

81.5, for a vehicle having multiple trucks including one which is occupant steered.

86.75+, for wheeled vehicle running gear provided with means enabling static adjustment of a spatial relationship of an axle or wheel upon the vehicle.

87.01+, for a coaster vehicle which may or may not include steering means.

87.1, for an occupant steered vehicle having steering means operable by the foot of an occupant.

89+, for checked steering means within an occupant steered vehicle.

91.1, for an occupant steered vehicle wherein four supporting wheels are each steered.

92, for an occupant steered vehicle wherein a single wheel is controlled.

98+, for a vehicle having running gear specially constructed to provide a small turning radius.

124.1+, for a suspension arrangement for resiliently, shock absorbingly supporting a vehicle body, chassis, or frame upon an axle or wheel, which axle or wheel may or may not be steerable. The superiority given to placement of the suspension arrangement subclasses prior to the occupant steered subclasses is due to the fact that the suspension arrangement provides for attaching and controlling movement of the axle or wheel relative to the vehicle body, chassis, or frame whereas the occupant steered feature is limited to pivotal motion about a single axis.

137.5+, for a vehicle having an articulated axle (i.e., swinging axle) lacking resilient, shock absorbing support that is controlled by a shaft or tongue which is neither disclosed or claimed as being a handle nor claimed in a combination defining an articulated vehicle train.

263+, for an occupant-propelled-type vehicle including steering means, noting the search notes appearing therein for additional relevant subclasses. Further, in accordance with the (2) Note of Class 280, subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses.

419, for articulated vehicles including interconnected steering of plural vehicles.

426, for an articulated semitrailer vehicle including steering by articulative movement therebetween.

442+, for articulated vehicles, not of semitrailer construction, including steering by articulative movement therebetween.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 79+ for a land vehicle either (a) proper for that class (Class 180) including guiding or steering means or (b) having power assisted guiding or steering means. Note also the search notes appearing therein for additional relevant subclasses. Class 180 is superior to Class 280 in the class hierarchy.

93.503 Auxiliary or redundant:

This subclass is indented under subclass 93.502. Subject matter comprising alternate or repetitive means for creating pivoting movement of the steerable road wheels for executing arcuate travel of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

774, for an occupant controlled steering arrangement including plural spaced operator's positions.

93.504 Swinging axle or half-axle:

This subclass is indented under subclass 93.502. Subject matter wherein the mechanical interconnecting elements are provided to pivot an axle or axle assembly mounted about a vertical pivot axis to execute arcuate travel of the vehicle.

(1) Note. Excluded from this subclass and the indented subclass are plural, laterally disposed, steered swivel trucks, which have been deemed analogous to stub axle structure and thus the control linkage therefore equivalent.

(2) Note. An axle or half axle within this subclass and the indented subclass provides the rotational axis for the wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.117+,for a vehicle having a vertical pivot axis mounted axle or axle assembly including resilient, shock absorbing interconnection to the vehicle body, chassis, or frame, which may or may not include occupant controlled steering means.

137.5+, for a vehicle having a vertical pivot axis mounted axle or axle assembly lacking a resilient, shock absorbing interconnection to the vehicle body, chassis, or frame, which vertical pivot axis mounted axle or axle assembly enables steering through horizontal swinging by other than an occupant controlled steering means of the vehicle.

93.505 Narrow track (e.g., tricycle-type tractor):
This subclass is indented under subclass 93.504. Subject matter wherein the steerable road wheels attached to the axle or axle assembly are disposed in close proximity to the vertical pivot axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:
92, for a vehicle having occupant controlled steering of a single wheel.

93.506 Differential steering:
This subclass is indented under subclass 93.502. Subject matter wherein the mechanical interconnecting elements cause unequal angular pivoting of laterally opposed steerable road wheels.

(1) Note. This is also known as “Ackerman steering”.

(2) Note. The unequal angular pivoting must be claimed for proper classification in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
103, for a general utility wheeled land vehicle running gear specially constructed for enabling arcuate travel within a reduced radius of curvature (i.e., short turn) including stub axles which may or may not involve differential steering. Typically, a draft or tongue attachment for pivoting the steerable road wheels is included.

93.507 Idler arm:
This subclass is indented under subclass 93.502. Subject matter comprising an intermediary link member pivotally attached to both (a) the vehicle body, chassis, or frame; and (b) the mechanical interconnecting elements.

93.508 Articulated joint structure:
This subclass is indented under subclass 93.507. Subject matter wherein significance is attributed to a pivotal union of the idler arm to either (a) the vehicle body, chassis, or frame; or (b) the mechanical interconnecting elements.

93.509 Motion modifier (e.g., lash, play):
Subject matter under subclass **93.508** including means for modifying the pivotal union.

SEE OR SEARCH CLASS:
384, Bearings, subclass 626 for a bearing shim, per se.
403, Joints and Connections, appropriate subclasses for pivotal unions of general utility.

93.51 Link member details (e.g., configuration, construction):
This subclass is indented under subclass 93.502. Subject matter wherein significance is attributed to linkage interconnecting a steering knuckle of a steerable road wheel to (a) a drag link, (b) an idler arm, (c) a pitman arm, or (4) a laterally opposed steering knuckle.

(1) Note. For this subclass, the inclusion of an idler arm is by nominal recitation only whereby the idler arm is merely referenced as a connection point for a connecting rod (i.e., tie rod). More than a nominal recitation of the idler arm in combination with a connecting rod configuration or construction is provided for earlier in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.52+, for an active suspension including means for governing a geometric or spatial relationship in response to a force encountered while the vehicle is in surface traversing motion which may or may not involve a connection rod.
86.75+, for a wheeled vehicle running gear provided with means enabling static adjustment of a spatial relationship upon the vehicle which may or may not involve a connection rod.

89.11+, for an occupant steered wheeled vehicle running gear including means inhibiting or prohibiting unintended variant pivotal operation of laterally opposed steerable road wheels.

93.507+, for a steering linkage combination requiring an idler arm.

93.511 Terminal attachment detail (e.g., ball joint):
This subclass is indented under subclass 93.51. Subject matter wherein significance is attributed to an end attachment of the link member.

SEE OR SEARCH CLASS:

184, Lubrication, subclasses 6+ for lubrication systems of general utility, especially subclass 6.19 for lubrication of linkage mechanisms.

384, Bearings, appropriate subclasses for bearings of general utility.

403, Joints and Connections, subclasses 52+ for unions of general utility, especially subclasses 122+ for ball and socket pivotal unions.

93.512 Kingpin, steering knuckle, steering arm, or wheel carrier construction:
This subclass is indented under subclass 93.502. Subject matter comprising an assemblage or fabrication providing a pivotal bearing support for the steerable road wheel.

93.513 Gearing arrangement:
This subclass is indented under subclass 93.502. Subject matter comprising an intermeshing drive mechanism for manipulating the direction or extent of translation motion required to generate the desired pivoting movement of the steerable road wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.502, for drive means of other than intermeshing relation, such as cables, chains, or ropes, etc.

93.514 Rack and pinion:
This subclass is indented under subclass 93.513. Subject matter wherein the gearing arrangement includes a rotating cog drive gear (i.e., pinion gear) and a reciprocating toothed driven gear of determinate length (i.e., rack gear).

93.515 Housing attachment detail:
This subclass is indented under subclass 93.514. Subject matter wherein significance is attributed to a mounting of a protective enclosure for the rack and pinion gearing arrangement.

98 This subclass is indented under subclass 80.1. Vehicle running gear specially constructed to make a short turn.

(1) Note. Merely a swing-axle on a single pivot directly controlled by shafts or tongue is not included.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.11, for an attendant steered wheeled land vehicle including plural interconnected controllable steerable wheel sets. See the (2) Note within subclass 47.11 definition.

82+, for vehicle tongue trucks.

93.504+, for a general utility wheeled land vehicle including occupant controlled steering of a swinging axle.

93.506, for a general utility wheeled land vehicle including occupant controlled steering wherein laterally opposed steerable road wheels are turned at different angles to effect arcuate travel about a common turning axis.

124.117+, for a general utility wheeled land vehicle including a vertical pivot axis mounted axle or axle assembly having resilient, shock absorbing means.

137.5+, for a general utility wheeled land vehicle including a turnable axle lacking resilient, shock absorbing means.

400+, for articulated vehicles.

99 This subclass is indented under subclass 98. Vehicles in which four supporting-wheels are controlled to turn the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

91, for four wheel controlled occupant steered vehicles.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 234+ for a motor vehicle having four driven

wheels and means for steering all of the driven wheels.

100 This subclass is indented under subclass 99. Vehicles in which two axles carrying the four supporting-wheels swing in opposite directions when turning the vehicle.

101 This subclass is indented under subclass 100. Vehicles having a pair of members, one connected to swing with each axle, pivotally and slidably connected together.

102 This subclass is indented under subclass 100. Vehicles having a pair of members crossing each other and connecting opposite ends of the two axles together.

103 This subclass is indented under subclass 98. Vehicles in which each controlled supporting-wheel has its individual axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.11, for a general utility wheeled land vehicle including wheel steering by an attendant wherein the wheel steering affects other than a mere swinging axle.

91.1, for a general utility wheeled land vehicle including occupant controlled steering of four stub axle mounted wheels.

93.502+, for a general utility wheeled land vehicle including occupant control of steerable road wheels.

137.5+, for a general utility wheel land vehicle including a turnable axle (i.e., fifth wheel or swinging axle).

443+, for articulated vehicles having wheels mounted on stub axles and controlled by articulative movement between the vehicles.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 408+ for a motor vehicle provided with means for steering each wheel of the motor vehicle.

104 This subclass is indented under subclass 80.1. Vehicles provided with means for transmitting weight from the running-gear to the wheels on different axles in substantially equal proportions regardless of inequalities of the level of the travelled surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

79, for a general utility wheeled land vehicle provided with springs between the wheel or wheels and the load-support, noting the search notes provided therein.

124.1+, for particular running gear construction of a general utility wheeled land vehicle including a resilient, shock absorbing suspension arrangement.

781+, for a general utility wheeled land vehicle including specific frame construction.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 183+ for parallel depression type springs.

105 This subclass is indented under subclass 80.1. Vehicles in which the running gear is modified for roller-bearings to carry the frame on the supporting-wheels or rotating axles. The presence of mere roller or ball bearing wheels does not bring a patent into this subclass.

107 This subclass is indented under subclass 80.1. Vehicles provided with means for retaining a vehicle body or load in position on the running-gear.

SEE OR SEARCH THIS CLASS, SUBCLASS:

35, and 47.131+, for article supporting vehicles.

43.1, for a vehicle having vertically adjustable ground engaging means and which is unstable when in transporting position but which is stabilized by an attendant or an article to which the vehicle is temporarily attached.

143+, for bolsters and standards for vehicle running gear.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclasses 199.1+ and 200+ for body and bolster connections for railway cars; subclass 236 for tender tanks; subclasses 335+ for freight cars; or subclass 453 for

railway car body suspension and springs.

180, Motor Vehicles, subclasses 89.1+ for body structure of a general utility self-propelled land vehicle including a feature as specified in Class 180 definition.

296, Land Vehicles: Bodies and Tops, subclasses 35.1+ for body securing devices or subclass 42 for stay irons for vehicle bodies.

108 This subclass is indented under subclass 80.1. Vehicle running gear having means for locking or tending to hold the vehicle tongue or shafts from lateral swing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

89+, for steering gear checks.

124.1 Suspension arrangement:

This subclass is indented under subclass 80.1. Subject matter wherein the vehicle running gear comprises means intermediate a vehicle body, chassis, or frame and either an axle or a wheel for providing resilient, shock absorbing support (i.e., suspension) for the vehicle body, chassis, or frame upon the axle or wheel.

(1) Note. The intermediate means are inclusive of axles, half axles, control arms, linkages, shock absorbers, springs, struts, etc.

(2) Note. These subclasses provide for the mechanical hardware or structural assembly of various suspension systems not elsewhere provided. A suspension arrangement including a regulatable elastic means responsive to a force encountered while the vehicle is in surface traversing motion is provided for earlier in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2, for a vehicle having a portion of the body or load supporting framework depending between axles forming a portion of the running gear connections.

5.5+, for a suspension arrangement responsive to a force encountered while the vehicle is in surface traversing motion.

6.15+, for a suspension arrangement used to alter the relative height or level of the vehicle.

62, for a general utility wheeled land vehicle normally travelling on three wheels.

63+, for a general utility wheeled land vehicle normally travelling on two wheels.

81.1+, for a general utility wheeled land vehicle including multiple truck running gear.

82+, for a draft or tongue truck.

86.1, for a resilient mounting of a swivel truck (i.e., caster wheel).

86.5, for a suspension construction of an auxiliary axle assembly.

104+, for an equalized vehicle frame including suspension means, especially for a tandem wheel arrangement.

200+, for running gear of an occupant propelled vehicle; especially subclasses 274+ or 281.1+. Additionally, in accordance with the (2) Note of subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses.

400+, for running gear of an articulated vehicle or plural interconnected vehicles (i.e., vehicle train).

638+, for an extensible vehicle wherein means are provided for changing a dimension of the vehicle or a part thereof, especially subclasses 43+ for vertically adjustable wheels.

781+, for a specific vehicle frame construction, especially subclass 788 wherein the specific vehicle frame construction is combined with resilient suspension means.

SEE OR SEARCH CLASS:

180, Motor Vehicles, appropriate subclasses for motor vehicles of that class (Class 180), particularly subclasses 6.2+ for a motor vehicle including means whereby the vehicle is steered through a cooperative driving arrangement or control between laterally disposed ground engaging means;

subclasses 9.1+ for a motor vehicle including endless track ground engaging means; subclasses 21+ for a motor vehicle including a special wheel base as defined within the definition of Class 180, subclass 21; subclasses 89.1+ for attaching bodies of motor vehicles to the running gear thereof; subclasses 233+ for a motor vehicle including four driven wheels; subclasses 252+ for a motor vehicle including at least one wheel which is both driven and steerable; or subclasses 337+ for a motor vehicle including a transmission mechanism.

296, Land Vehicles: Bodies and Tops, appropriate subclasses for vehicle body construction in general, especially subclasses 35.1+ for devices securing the vehicle body to the running chassis frame including nominal recitation of running gear.

124.101 Including preparatory elasticity parameter selection:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension includes means for selectively establishing a mode of operation.

(1) Note. Means appropriate for this subclass include means responsive to operation of a car door, actuation or insertion of an ignition switch key, parking brake engagement or release, closure or opening of a trunk lid, etc.

(2) Note. A suspension arrangement including control means which establish riding or trim height wherein the suspension arrangement is adjusted to an appropriate location for proper running gear operation is not proper for this subclass but is provided for earlier in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.5+, for an active suspension responsive to a force encountered while the vehicle is in surface traversing motion, especially subclasses 5.501+ for control means providing fail-safe override upon detection of a perceived abnormal handling or ride posture characteristic based upon the superiority given to the avoidance of a potentially life threatening situation presented by the perceived abnormal handling or ride posture characteristic; or subclasses 5.515+ wherein the elasticity property of the suspension is regulated during surface traversing motion of the vehicle.

6.157+, for a suspension including means for establishing riding or trim height.

124.102 Manual actuation:

This subclass is indented under subclass 124.101. Subject matter wherein the means are activated by a living being.

SEE OR SEARCH CLASS:

188, Brakes, subclass 299.1 for a fluid resistance shock absorber including remotely operated means for altering the relative elasticity thereof through regulation of the fluid movement.

267, Spring Devices, subclasses 2+ for vehicle springs including elasticity adjustment means.

124.103 Body banking on turning:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension creates or enables sideways or transverse inclination of the vehicle body, chassis, or frame toward a center of curvature about which the vehicle is executing arcuate travel to overcompensate for a resultant centrifugal force experienced by the vehicle.

(1) Note. The mere balancing, cancellation, or compensation of centrifugal force experienced by a vehicle executing arcuate travel is not proper for classification in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.509, for an active suspension wherein means responsive while the vehicle is in surface traversing motion are caused to sideways or transversely incline the vehicle body, chassis, or frame.

124.106+,for a suspension arrangement which balances, cancels, or compensates for

the centrifugal force experienced by a vehicle executing arcuate travel.

124.104 Antidive or antisquat:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension restricts the vehicle body, chassis, or frame from inclining in the front-to-rear or fore-and-aft direction.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.513, for an active suspension wherein means responsive while the vehicle is in surface traversing motion are caused to restrict longitudinal inclination of the vehicle body, chassis, or frame.

124.105 Brake reaction device:

This subclass is indented under subclass 124.104. Subject matter wherein the inclination restricting suspension includes linkage means associated with a wheel brake mechanism.

124.106 Antiroll or antisway:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension restricts the vehicle body, chassis, or frame from tilting in the sideways or transverse direction.

(1) Note. The mere inclusion of an antiroll, sway, or torsion bar or rod does not render classification in this subclass. This subclass includes (a) a vehicle stabilizer, per se; (b) a suspension system specifically claimed as being for antiroll; or (c) a suspension system involving interconnected wheel suspension units not elsewhere classifiable.

(2) Note. The feature of an antiroll, sway, or torsion bar or rod in a combination for a wheel separately supported upon an individual spindle axle is not proper for classification in this or the indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.508+, for an active suspension wherein means responsive while the vehicle is in surface traversing motion are caused to restrict lateral tilt of the vehicle body, chassis, or frame.

124.125+,for a suspension arrangement of a wheel separately supported upon an individual spindle axle, especially subclass 124.13 wherein a longitudinally extending swinging arm includes stabilizing means within the connection housing of the swinging arm pivot to the vehicle body, chassis, or frame; subclass 124.137 wherein an upper and lower lateral control arm suspension includes a torsion bar; subclass 124.149 wherein a lateral control arm and vertical strut suspension includes a torsion stabilizer; and subclass 124.152 wherein a lateral control arm suspension includes a stabilizer bar.

124.107 Centrifugal force transmission linkage:

This subclass is indented under subclass 124.106. Subject matter wherein the tilt restricting suspension includes a mechanical interconnection for transferring the inertial force moment created by arcuate travel from one side to the other side of the vehicle body, chassis, or frame.

(1) Note. A transfer of fluid medium is not considered a mechanical interconnection for classification in this subclass.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 183+ for a spring device having a stabilizer bar for causing a uniform displacement along a substantially horizontal line contained in the vehicle body or chassis.

124.108 Resonance vibration suppression:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension specifically abates unwanted mechanical disturbances.

(1) Note. Since the proximate utility of all suspensions involve the reduction of resonant vibration for the comfort of the occupant, at least to some extent, this subclass includes only those patents which specifically claim the noise suppression.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.515+, for an active suspension wherein means responsive while the vehicle is in surface traversing motion are caused to govern the extent of travel surface induced vibrational force experienced by a vehicle occupant.

124.109 Interposed frame structure (i.e., subframe):

This subclass is indented under subclass 124.1. Subject matter wherein the suspension includes a structural assembly that maintains its configuration independently of its location.

(1) Note. The interposed frame structure must itself be resiliently coupled to the vehicle body, chassis, or frame. This excludes turntable-type attachments for a swinging axle or axle assembly which are provided for later in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.11+, for a resilient, shock absorbingly mounted swinging axle or axle assembly.

137.5+, for an articulated axle lacking a resilient, shock absorbing feature.

781+, for a vehicle including specific frame construction.

124.11 Pivotally mounted axle or axle assembly:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension comprises a structurally rigid bar, beam, shaft, or tube mounted for oscillatory movement upon the vehicle body, chassis, or frame about a mounting point which either (a) functions as a direct support for a single wheel carrier or spindle or (b) supports laterally opposed wheel carriers or spindles.

(1) Note. The oscillatory movement about the mounting point may be for other than suspension purposes (e.g., steering) and other than a defined axis of rotation (e.g., orbital, universal).

(2) Note. Included herein are half axles.

(3) Note. The mere mounting of an axle or axle assembly upon a horizontal axis upon the vehicle body, chassis, or frame for oscillatory movement within a vertical plane is sufficient to provide the resilient, shock absorbing support.

(4) Note. Excluded from this and the indented subclasses are an axle or axle assembly involving a pivotal interconnection between a coupling pole, perch, or reach, which interconnects front and rear running gear units so as to enable independent rocking motion thereof in a vertical plane, lacking a claimed feature providing resilient, shock absorbing support for the vehicle body, chassis, or frame (i.e., a spring). Vehicle running gear including a coupling pole, perch, or reach interconnecting front and rear running gear units provided with means enabling relative oscillatory movement of the front and rear running gear units is provided for later in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

137.5+, for a fifth-wheel or swinging axle lacking a claimed feature providing resilient, shock absorbing support for the vehicle body, chassis, or frame, especially subclass 137.503 wherein a spherical union interconnects a coupling pole, perch, or reach to the axle or axle assembly; or subclass 137.504 wherein bracing of the coupling pole, perch, or reach interconnection to the axle or axle assembly is claimed.

141, for vehicle running gear including a coupling pole, perch, or reach interconnecting front and rear running gear units provided with means enabling relative oscillatory movement of the front and rear running gear units.

124.111 Longitudinal pivot axis (i.e., rocking axle):

This subclass is indented under subclass 124.11. Subject matter wherein the structurally rigid bar, beam, shaft, or tube is mounted upon an axis directed parallel to the longitudinal centerline of the vehicle body, chassis, or frame for oscillatory movement in a vertical plane.

(1) Note. Included herein is a pivot axis either coaxial with or parallel to the longitudinal centerline of the vehicle body, chassis, or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.154+, for running gear including means for vertically predisposing a load, load carrier, or receptacle portion so as to accommodate travel upon an inclined surface.

124.112 Including fluid actuator:

This subclass is indented under subclass 124.111. Subject matter comprising a hydraulic drive mechanism for creating or restricting the oscillatory movement.

124.113 Including steerable terminal wheel spindle:

This subclass is indented under subclass 124.111. Subject matter wherein the supported wheel carrier or spindle is additionally pivotally mounted to a terminus of the structurally rigid bar, beam, shaft, or tube for executing arcuate travel of the vehicle.

124.114 And vertical pivot axis (i.e., swinging axle):

This subclass is indented under subclass 124.111. Subject matter wherein the vertically oscillatory axle or axle assembly is additionally mounted upon an erect perpendicular axis for oscillatory movement in a horizontal plane.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.117+,for a structurally rigid bar, beam, shaft, or tube mounted upon an erect perpendicular axis upon the vehicle body, chassis, or frame for oscillatory movement in a horizontal plane not including vertical oscillatory motion.

137.5+, for a swinging axle lacking a feature providing resilient, shock absorbing support for the vehicle body, chassis, or frame upon the swinging axle. Also included in these subclasses are a swinging axle combined with a coupling pole, perch, or reach, which interconnects front and rear running gear units so as to enable relative independent rocking motion thereof in a vertical plane.

124.115 Fifth wheel articulated axle:

This subclass is indented under subclass 124.114. Subject matter comprising a coupling assembly of two coaxially mounted rotatable disks or disk segments defining the vertical pivot axis.

124.116 Horizontal and transverse pivot axis:

This subclass is indented under subclass 124.11. Subject matter wherein the structurally rigid bar, beam, shaft, or tube is mounted upon an axis directed across the longitudinal centerline of the vehicle body, chassis, or frame for oscillatory movement in a vertical plane.

(1) Note. Included herein are leading- or trailing-arm type suspensions supporting laterally opposed wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.5, for an auxiliary axle assembly which may be mounted upon a horizontal and transverse pivot axis for movement between a use and a nonuse condition.

676+, for a tandem axle assembly.

124.117 Vertical pivot axis (i.e., swinging axle):

This subclass is indented under subclass 124.11. Subject matter wherein the structurally rigid bar, beam, shaft, or tube is mounted upon an erect perpendicular axis upon the vehicle body, chassis, or frame for oscillatory movement in a horizontal plane.

(1) Note. A mere swinging axle lacking a claimed feature providing resilient, shock absorbing support for the vehicle body, chassis, or frame upon the swinging axle is not proper for classification in this or the indented subclasses but is provided for later in the class schedule. Accordingly, mere disclosure or inferential claim language that the vehicle body, chassis, or frame is resiliently, shock absorbingly mounted to the running gear element comprising the swinging axle does not control assignment to this subclass or the indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.114+, for a structurally rigid bar, beam, shaft, or tube mounted upon an axis directed parallel to the longitudinal centerline of the vehicle body, chassis, or frame for oscillatory movement in a vertical plane and additionally mounted upon an erect perpendicular axis upon the vehicle body, chassis, or frame for oscillatory movement in a horizontal plane.

137.5+, for a swinging axle lacking a feature providing resilient, shock absorbing support for the vehicle body, chassis, or frame upon the swinging axle.

124.118 Narrow track:

This subclass is indented under subclass 124.117. Subject matter wherein the wheel carrier or spindle is located in close proximity to the vertical pivot axis.

124.119 Differential motion:

This subclass is indented under subclass 124.118. Subject matter wherein (a) plural wheel carriers or spindles are located in close proximity to the vertical pivot axis and (b) each respective wheel carrier or spindle is attached to move in an opposite direction so as to provide the resilient, shock absorbing support of the vehicle body, chassis, or frame.

124.12 With draft attachment:

This subclass is indented under subclass 124.117. Subject matter comprising means for connecting to a source of pulling force.

SEE OR SEARCH THIS CLASS, SUBCLASS:

137.501, for a swinging axle lacking a feature providing resilient, shock absorbing support for the vehicle body, chassis, or frame upon the swinging axle including draft attachment, noting the search notes provided therein for additional relevant subclasses.

124.121 Resilient connection detail:

This subclass is indented under subclass 124.117. Subject matter wherein significance is attributed to the mounting (i.e., resilient support) of the structurally rigid bar, beam, shaft, or tube to the vehicle body, chassis, or frame.

124.122 Offset pivot:

This subclass is indented under subclass 124.121. Subject matter wherein the connection includes displacement of the erect perpendicular axis from the longitudinal axis of the structurally rigid bar, beam, shaft, or tube.

124.123 Telescopic members:

This subclass is indented under subclass 124.121. Subject matter wherein the connection includes overlapping concentric slidably engaged elements.

124.124 Fifth wheel supported upon transverse leaf spring:

This subclass is indented under subclass 124.121. Subject matter wherein the connection includes one of two coaxially mounted rotatable disks or disk segments of a coupling assembly forming the erect perpendicular pivot axis mounted upon a laterally disposed, elongated flexible strip providing flexural deflection to a force imposed perpendicular to its width dimension.

SEE OR SEARCH THIS CLASS, SUBCLASS:

137.502+, for fifth wheel construction lacking resilient, shock absorbing support for the vehicle body, chassis, or frame.

433+, for a fifth wheel coupling between a tractor and a semitrailer.

124.125 Wheel separately supported upon individual stub axle (e.g., skein, spindle):

This subclass is indented under subclass 124.1. Subject matter wherein the suspension provides resilient, shock absorbing interconnection of a relatively short shaft (i.e., stub axle) providing the rotational axis for each wheel, to the vehicle body, chassis, or frame.

(1) Note. The requirement that the stub axle itself be resiliently mounted upon the vehicle excludes a bifurcated or yoked axle supporting a kingpin, unless the kingpin is resiliently mounted to the axle.

124.126 Steering pivot confined within boundary of wheel:

This subclass is indented under subclass 124.125. Subject matter wherein the suspension interconnects a steerable wheel to the vehicle body, chassis, or frame such that the connection points defining a turning axis of the wheel lie within the area defined by the perimeter and treadwidth of the wheel.

(1) Note. Excluded from this subclass is a telescopically mounted steerable or steered swivel truck wherein the pivot axis is vertically aligned with the wheel center plane but actually displaced above the rotational axis of the wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.11, for an attendant steered vehicle having steering control means for other than a mere swinging axle.

47.34+, for a stable, handle-propelled vehicle which may or may not include a steerable wheel.

86+, for a nonsteerable swivel truck (i.e., caster wheel).

87.01+, for a coaster vehicle which may or may not include a steerable wheel.

124.117+,for a telescopically mounted steerable or steered swivel truck wherein the pivot axis is vertically aligned with the wheel center plane but actually displaced above the rotational axis of the wheel.

200+, appropriate subclasses for an occupant-propelled-type wheeled land vehicle including a steerable wheel. Additionally, in accordance with the (2) Note of subclass 200, motorcycle frames and running gear without features causing classification in Class 180, Motor Vehicles, are included in these subclasses.

124.127 Sliding connection (e.g., pillar and sleeve):

This subclass is indented under subclass 124.125. Subject matter wherein the suspension includes cooperating interengaged guiding elements restricting the stub axle to rectilinear reciprocatory movement.

(1) Note. Included herein is a bifurcated or yoked axle supporting a resiliently mounted kingpin.

(2) Note. The rectilinear reciprocatory movement is usually vertical; however, the subject matter is not restricted thereto.

(3) Note. Excluded from this subclass is a telescopically mounted steerable or steered swivel truck.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.1, for a resiliently mounted nonsteerable swivel truck (i.e., caster wheel).

124.117+,for a telescopically mounted steerable or steered swivel truck.

124.128 Longitudinally extending swinging support arm (i.e., leading or trailing swing arm):

This subclass is indented under subclass 124.125. Subject matter wherein the suspension includes an elongated member pivotally attached to the vehicle body, chassis, or frame about an axis or axis extension crossing the longitudinal centerline of the vehicle providing a longitudinally displaced pivot axis for the stub axle.

(1) Note. This subclass and the subclasses indented hereunder require that the stub axle move in an arcuate motion relative to the vehicle body, chassis, or frame whereby the rotational axis of the wheel is moved both longitudinally and vertically when undergoing deflection. A longitudinally extending support member not functioning to enable this compound motion is not proper for this subclass or those indented hereunder but rather belongs in subclasses provided elsewhere.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.153, for a suspension arrangement including a longitudinally extending support member or members. See the (1) Note supra.

124.129 Road arm:

This subclass is indented under subclass 124.128. Subject matter wherein the longitudinally extending swinging support arm encases resilient, shock absorbing means between the pivot point attachment to the vehicle body, chassis, or frame and the stub axle.

(1) Note. The stub axle usually supports either a driven or nondriven wheel engaging a crawler track or an endless track; however, it is not restricted thereto.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 9+ for a motor vehicle of that class (Class 180) including an endless track. In accordance with item 9 under Class 180 definition, no power or driving means needs to be claimed for assignment to that class (Class 180). Class 180 is superior to Class 280 in the class hierarchy.

305, Wheel Substitutes for Land Vehicles, appropriate subclasses for flexible endless track wheel substitutes. Class 305 is subordinate to Class 280 in the class hierarchy.

124.13 Stabilizer means within connection housing of arm pivot (e.g., bushing, spring, torsion rod):

This subclass is indented under subclass 124.128. Subject matter wherein the pivotal attachment of the elongated member includes a spring member resisting free pivotal movement.

(1) Note. The included resisting or restraining member is not restricted to any specific construction. Illustrative of such a member is a coil spring, an elastomeric spring (i.e., bushing), a fluid spring, a torsion bar or rod, etc.

124.131 Spring-like arm:

This subclass is indented under subclass 124.128. Subject matter wherein the support arm is an elastically deformable or resilient member.

(1) Note. The support arm is usually either a leaf spring or a torsion bar or rod.

124.132 Intermediate of support arm (e.g., semileading or semitrailing arm):

This subclass is indented under subclass 124.128. Subject matter wherein the stub axle is attached at other than a terminal end of the support arm.

124.133 Arm having plural segments or dissimilar materials:

This subclass is indented under subclass 124.128. Subject matter wherein the support arm comprises (a) discrete elements or (b) a nonhomogeneous construction.

(1) Note. Excluded from this subclass is a parallelogram structure of vertically disposed longitudinally extending swinging support arms.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.153, for a suspension arrangement including plural vertically disposed longitudinally extending support members. See the (1) Note supra.

124.134 Lateral control arm (i.e., suspension arm):

This subclass is indented under subclass 124.125. Subject matter wherein the suspension includes a member (a) extending transversely to the vehicle body, chassis, or frame; and (b) having an inboard end coupled to the vehicle body, chassis, or frame and an outboard end coupled to a kingpin, steering knuckle, or wheel carrier and the member constrains horizontal displacement of the stub axle.

124.135 Plural lateral control arms:

This subclass is indented under subclass 124.134. Subject matter including at least two transversely extending members constraining horizontal displacement of the stub axle.

124.136 Upper and lower arms having aligned outboard ends:

This subclass is indented under subclass 124.135. Subject matter wherein the outboard end of one arm terminates at a position above the stub axle, the outboard end of another arm terminates at a position below the stub axle,

and the outboard ends of the arms lie along a line passing through the stub axle.

124.137 With torsion bar:

This subclass is indented under subclass 124.136. Subject matter wherein the suspension additionally includes an elongated rod, shaft, or tube providing a springing action resulting from a twist deformation (torque deformation) attached to one of the control arms.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.511, for an active suspension responsive to a force encountered while the vehicle is in surface traversing motion and a sway or torsion bar is regulated.

124.106+, for a mechanical hardware or structural assembly suspension arrangement provided for restricting sideways or transverse tilting of a vehicle body, chassis, or frame.

124.149, for an individual wheel suspension having a transversely extending member, a vertically extending strut, and a longitudinally extending control arm or strut wherein the longitudinally extending control arm or strut is a torsion bar or rod.

124.152, for an individual wheel suspension including a single lateral control or suspension arm and a stabilizer bar.

124.138 Specific spatial location:

This subclass is indented under subclass 124.136. Subject matter wherein significance is attributed to a spatial location of at least one of the control arms to (a) the other control arm; (b) the vehicle body, chassis, or frame (i.e., inboard end); or (c) kingpin, steering knuckle, or wheel carrier (i.e., outboard end).

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.52+, for an active suspension responsive to a force encountered while the vehicle is in surface traversing motion which alters a spatial relationship of the running gear.

86.75+, for wheeled running gear including means for static alteration of a spatial relationship of the running gear upon the vehicle.

124.139 Unequal length:

This subclass is indented under subclass 124.136. Subject matter wherein the control arms differ in elongate dimension.

(1) Note. The length difference must be claimed for proper classification in this and the indented subclass.

124.14 Spring-like arm:

This subclass is indented under subclass 124.139. Subject matter wherein one of the control arms is a mechanical resilient member.

124.141 Interposed coil spring:

This subclass is indented under subclass 124.136. Subject matter wherein a helical shaped elastic member is disposed within a boundary area delimited by the control arms.

(1) Note. The helical shaped elastic member is not required to engage either of the control arms but merely be placed within the bounded area defined therebetween.

124.142 Coil spring disposed above upper arm:

This subclass is indented under subclass 124.136. Subject matter wherein a helical shaped elastic member is positioned over or upon the upper control arm.

124.143 Longitudinally spaced outboard ends:

This subclass is indented under subclass 124.135. Subject matter wherein an outboard end of one of the control arms is coupled forwardly of the stub axle and the outboard end of another control arm is coupled rearwardly of the stub axle.

124.144 Resilient coupling:

This subclass is indented under subclass 124.143. Subject matter wherein the coupling of one of the control arms includes an elastomeric member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.516, for an active suspension responsive while the vehicle is in surface traversing motion wherein suspension stiffness for ride comfort is adjusted through bushing compliance regulation.

5.523, for an active suspension responsive while the vehicle is in surface traversing motion wherein toe angle of a wheel is adjusted through bushing regulation.

124.145 Including vertically extending strut:

This subclass is indented under subclass 124.134. Subject matter wherein the suspension includes an erect member extending between the vehicle body, chassis, or frame and the stub axle for constraining vertical displacement of the stub axle.

124.146 Turnable telescopic strut (i.e., MacPherson strut type):

This subclass is indented under subclass 124.145. Subject matter wherein the erect member comprises overlapping concentric slidably engaged and relatively rotatable elements whereby pivotal motion of the stub axle for steering purposes is attained.

124.147 Upper strut mount detail:

This subclass is indented under subclass 124.146. Subject matter wherein significance is attributed to means for connecting a top end of the erect member to the vehicle body, chassis, or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.752, for vehicle running gear including static alignment adjustment wherein caster or camber adjustment of a wheel is affected by the connection of the upper end of a vertically extending strut to the vehicle body, chassis, or frame.

124.155, for a vehicle running gear including means for connecting the top end of a vertically extending telescopic strut to the vehicle body, chassis, or frame lacking a lateral control or suspension arm.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 217+ for upper strut mount constructions of that class (Class 267), especially subclass 220 for elastomeric coupling means.

124.148 Including longitudinally extending control arm or strut:

This subclass is indented under subclass 124.145. Subject matter including an elongated member extending between the vehicle body, chassis, or frame and the stub axle in a longitudinal direction of the vehicle and constraining longitudinal movement of the stub axle.

124.149 Torsion stabilizer:

This subclass is indented under subclass 124.148. Subject matter wherein the elongated member is a bar, rod, shaft, or tube providing a springing action through twist deformation about a longitudinal axis thereof (torque deformation).

124.15 Specific spatial location:

This subclass is indented under subclass 124.134. Subject matter wherein significance is attributed to a spatial location of the control arm.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.138, for a suspension including upper and lower lateral control arms having aligned outboard ends and including a specific spatial location.

124.143+, for a suspension including plural lateral control arms having longitudinally spaced outboard ends which may include a specific spatial location.

124.151 Including spring retaining seat:

This subclass is indented under subclass 124.134. Subject matter wherein the transversely extending member provides a base support for a resilient energy storing mechanical element.

(1) Note. The resilient mechanical element is usually a helical coil spring; however, the subclass is not limited thereto.

(2) Note. Excluded from this subclass is a connection between a sway or torsion bar and the transversely extending member because such connection does not provide a base support but rather is merely a constraining attachment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.137, for a suspension including upper and lower lateral control arms having aligned outboard ends and including a torsion bar.

124.152, for a suspension including a lateral control arm and a torsion bar attached thereto. See the (2) Note supra.

124.152 Including stabilizer bar (e.g., sway bar):

This subclass is indented under subclass 124.134. Subject matter including an elongated rod, shaft, or tube attached to the transversely extending member and wherein the rod, shaft, or tube provides a springing action resulting from a twist deformation (torque deformation) for assisting in constraining displacement of the stub axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.511, for an active suspension responsive while the vehicle is in surface traversing motion wherein a sway or torsion bar is regulated.

124.106+, for a mechanical hardware or structural assembly suspension arrangement provided for restricting sideways or transverse tilting of a vehicle body, chassis, or frame.

124.137, for a suspension including upper and lower lateral control arms having aligned outboard ends and including a torsion bar.

124.149, for a suspension having a transversely extending member, a vertically extending strut, and a longitudinally extending control arm or strut wherein the longitudinally extending control arm or strut is a torsion bar or rod.

124.153 Longitudinal control arm (i.e., suspension arm):

This subclass is indented under subclass 124.125. Subject matter including an elongated member extending between the vehicle body, chassis, or frame and the stub axle in a longitudinal direction of the vehicle and constraining longitudinal movement of the stub axle.

(1) Note. Parallel longitudinal control or suspension arms having terminal attachment above and below a stub axle are included herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.128+, for a longitudinally extending swinging support arm suspension.

124.137, for a suspension including upper and lower lateral control arms having aligned outboard ends and including a torsion bar which may function to constrain forward and rearward displacement of the stub axle in addition to providing a springing action through twist deformation.

124.148+, for a suspension having a transversely extending member, a vertically extending strut, and a longitudinally extending control arm or strut.

124.152, for a suspension including a lateral control arm and an attachment to a stabilizer bar wherein the stabilizer bar may function to constrain forward and rearward displacement of the stub axle in addition to providing a springing action through twist deformation.

124.154 Vertically extending telescopic strut:

This subclass is indented under subclass 124.125. Subject matter wherein the suspension includes an erect member having overlapping concentric slidably engaged elements extending between the vehicle body, chassis, or frame and the stub axle for constraining vertical displacement of the stub axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.143+, for a suspension including at least two lateral control or suspension arms disposed at longitudinally spaced terminal attachment points to a kingpin, steering knuckle, or wheel carrier which may or may not include a vertically extending telescopic strut.

124.145+, for a suspension including a lateral control or suspension arm and a vertically extending strut.

124.155 Upper strut mount detail:

This subclass is indented under subclass 124.154. Subject matter wherein significance is attributed to means for connecting a top end of the erect member to the vehicle body, chassis, or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.752, for vehicle running gear including static alignment adjustment wherein caster or camber adjustment of a wheel is affected by the connection of the upper end of a vertically extending strut to the vehicle body, chassis, or frame.

124.147, for a suspension system having a lateral control or suspension arm and a vertically extending, turnable telescopic strut and means for connecting the top end of the vertically extending, turnable telescopic strut to the vehicle body, chassis, or frame.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 217+ for upper strut mount constructions of that class (Class 267), especially subclass 220 for elastomeric coupling means.

124.156 Including "live" axle feature (e.g., differential):

This subclass is indented under subclass 124.1. Subject matter wherein the axle comprises means for transferring drive power to road wheels.

(1) Note. Nominal recitation of a differential or transfer case is sufficient for classification in this subclass. However, mere recitation that the axle is driven is not proper for classification in this subclass.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 348+ for a vehicle of that class (Class 180) involving a "live" axle, especially subclasses 359+ for mounting of a differential or transfer case.

124.157 Fluidic suspension:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension includes a displaceable, flowable agent.

(1) Note. A suspension arrangement including a regulatable elastic means, including a fluid suspension arrangement, responsive while the vehicle is in surface traversing motion is provided for earlier in the class schedule. Similarly, a fluid suspension arrangement for vertically predisposing a load, load carrier, or receptacle portion is provided for earlier in the class schedule.

(2) Note. This subclass is the residual subclass for a fluid suspension not classifiable elsewhere or in an indented subclass.

(3) Note. In accordance with accepted industry and mechanical engineering convention, a shock absorber, per se, is not deemed to be a fluid suspension element for the purposes of this subclass and the indented subclasses since it normally does not support any weight but merely retards the extent of motion provided by a supporting spring device attempting to distort or return to its undeflected condition.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.5+, for an active suspension including a regulatable elastic means responsive while the vehicle is in surface traversing motion.

6.15+, for a vehicle including means used to alter the relative height or levelness of the vehicle body, chassis, or frame which may or may not include a fluidic suspension element.

86.5, for an auxiliary axle assembly which may or may not include a fluidic suspension.

86.75+, for vehicle running gear including static alignment adjustment means which may or may not include a fluidic suspension element.

104+, for vehicle running gear including an equalized frame, especially subclasses

678 or 683 for tandem axles including fluid spring means.

124.101+, for a suspension arrangement including means for presetting an elasticity parameter.

124.103, for a suspension arrangement intended to sideways or transversely incline the vehicle body, chassis, or frame toward a center of curvature about which the vehicle body, chassis, or frame is executing arcuate travel which may or may not include a fluidic suspension element. See the (2) Note supra.

124.104+, for a suspension arrangement intended to restrict front-to-rear or fore-and-aft inclination of the vehicle body, chassis, or frame which may or may not include a fluidic suspension element. See the (2) Note supra.

124.106+, for a suspension arrangement intended to restrict sideways or transverse tilt of the vehicle body, chassis, or frame which may or may not include a fluidic suspension element. See the (2) Note supra.

124.112, for a suspension arrangement including a rocking axle having a fluid actuator. See the (2) Note supra.

124.116, for a suspension arrangement wherein an axle or axle assembly is mounted upon a horizontal and transverse pivot axis which may or may not include a fluidic suspension element. See the (2) Note supra.

124.117+, for a steerable or steered swivel truck which may or may not involve a fluidic suspension element. See the (2) Note supra.

124.125+, for a suspension arrangement separately supporting an individual wheel for interconnecting a stub axle to the vehicle body, chassis, or frame which may or may not include a fluidic suspension element. See the (2) Note supra.

200+, for running gear of a general utility occupant-propelled-type wheeled land vehicle, especially subclasses 274+ or 283+, which may or may not include a fluidic suspension element. Additionally, in accordance with the (2) Note of subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in these subclasses. See the (2) Note supra.

400+, for an articulated vehicle or plural interconnected vehicles (i.e., vehicle train) which may or may not include a fluidic suspension element. See the (2) Note supra.

781+, for a vehicle running gear including specific frame construction, especially subclass 782 wherein the specific frame construction forms a fluid conduit which may or may not be a suspension fluid. See the (2) Note supra.

SEE OR SEARCH CLASS:

188, Brakes, subclasses 266.1+ for a retarding or stopping mechanism employing the reluctance of a medium to be disturbed. This class (Class 188) includes a shock absorber, per se.

267, Spring Devices, subclasses 2+ for vehicle spring devices, per se, especially subclasses 64.11+ for fluid spring devices or subclasses 217+ for a mechanical spring device and a fluid retarder (i.e., shock absorber). Class 267 provides the locus for the combination of a spring device and a shock absorber.

124.158 Hydraulic and pneumatic:

This subclass is indented under subclass 124.157. Subject matter wherein the displaceable flowable agent includes a gaseous medium (e.g., air) and an incompressible liquid medium (e.g., oil).

(1) Note. This subclass requires either (a) simultaneous use of gaseous and liquid medium in an element of the running gear or (b) the existence of both gaseous and liquid medium handling systems for cooperative employment within the suspension system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.5+, for an active suspension responsive while the vehicle is in surface traversing motion which may or may not involve a hydraulic-pneumatic suspension element.

6.15+, for a vehicle including means used to alter the relative height or levelness of the vehicle body, chassis, or frame which may or may not include a hydraulic-pneumatic suspension element.

124.159 Fluid handling details:

This subclass is indented under subclass 124.158. Subject matter wherein significance is attributed to a flow path for either the gaseous medium or the incompressible liquid medium.

SEE OR SEARCH CLASS:

137, Fluid Handling, appropriate subclasses for general fluid handling apparatus and methods.

124.16 Fluid handling details:

This subclass is indented under subclass 124.157. Subject matter wherein significance is attributed to a flow path for the displaceable flowable agent.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.159, for fluid handling details when the fluidic suspension includes a gaseous medium and an incompressible liquid medium.

SEE OR SEARCH CLASS:

137, Fluid Handling, appropriate subclasses for general fluid handling apparatus and methods.

124.161 Closed system:

This subclass is indented under subclass 124.16. Subject matter wherein the displaceable flowable agent is contained at all times.

124.162 Including mechanical spring element:

This subclass is indented under subclass 124.157. Subject matter wherein the fluidic suspension includes an elastic potential energy storing device.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 217+ for a vehicle spring device including a combination of a mechanical spring and a fluid retarder (i.e., shock absorber).

124.163 Leaf spring:

This subclass is indented under subclass 124.162. Subject matter wherein the mechanical spring element is an elongated strip which flexurally deflects in response to a force being imposed perpendicularly to its width dimension.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 227 for a vehicle spring device including a combination of a leaf spring and a fluid retarder (i.e., shock absorber).

124.164 Mechanical spring element:

This subclass is indented under subclass 124.1. Subject matter wherein the suspension includes an elastic potential energy storing device.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 2+ for vehicle spring devices, per se.

124.165 Plural diverse mechanical spring elements:

This subclass is indented under subclass 124.164. Subject matter wherein the suspension includes several distinct forms or types of elastic potential energy storing devices.

(1) Note. Mere duplication of a single form or type of elastic potential energy storing device is not proper for classification in this subclass. Such duplication would be properly classified in the subclass providing for that form or type of elastic potential energy storing device.

(2) Note. A resilient, elastomeric, or rubber element employed within a mounting arrangement of a mechanical spring element is not to be considered a “distinct” spring element for classification in this subclass unless such resilient, elastomeric, or rubber element acts to provide cushioning effect upon the axle, vehicle body, chassis, or frame, or wheel other than through the associated mechanical spring mounting arrangement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.108, for a suspension arrangement specifically provided to abate mechanical

noise, which may involve the use of a resilient, elastomeric, or rubber cushioning element.

124.162+, for a suspension arrangement including a fluidic suspension element and a mechanical spring element.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 2+ for vehicle spring devices, per se, especially subclasses 259+ for plural diverse spring devices, each of which cushions relative movement between parts of the vehicle.

124.166 Torsion spring:

This subclass is indented under subclass 124.164. Subject matter wherein the mechanical spring element has a lengthwise axis and undergoes a twisting deformation (torque deformation) about its lengthwise axis in response to an applied force.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.511, for an active suspension responsive while the vehicle is in surface traversing motion wherein a sway or torsion bar is regulated.

86.5, for an auxiliary axle assembly which may or may not include a torsion spring.

104+, for vehicle running gear including an equalized frame, especially subclasses 679 or 684 for tandem axles including torsion spring means.

124.103, for a suspension arrangement causing body banking on turning which may or may not include a torsion spring.

124.107, for a suspension arrangement preventing body roll which may or may not include a torsion spring.

124.116, for a suspension arrangement wherein an axle or axle assembly is mounted upon a horizontal and transverse pivot axis which may or may not include a torsion spring.

124.125+, for a suspension arrangement for separately supporting a wheel upon an individual skein or spindle axle, especially subclasses 124.13, 124.137, 124.149, or 124.152 which include a torsion spring device.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 273+ for a torsion vehicle spring device.

124.167 Longitudinally extending:

This subclass is indented under subclass 124.166. Subject matter wherein the lengthwise axis of the torsion spring is directed substantially along a longitudinal centerline of the vehicle body, chassis, or frame.

124.168 Helical form:

This subclass is indented under subclass 124.166. Subject matter wherein the torsion spring is a spiral lying on the surface of a cylinder and the twisting deformation (torque deformation) causes winding of the spiral.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 275 for a vehicle helical form torsion spring device.

124.169 Elastomeric material:

This subclass is indented under subclass 124.166. Subject matter wherein the torsion spring is a mass of rubber or rubber-like resilient material.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 279+ for a vehicle elastomeric torsion spring device.

124.17 Leaf spring:

This subclass is indented under subclass 124.164. Subject matter wherein the mechanical spring element is an elongated strip which flexurally deflects in response to a force being imposed perpendicularly to its width dimension.

SEE OR SEARCH THIS CLASS, SUBCLASS:

680, for a tandem axle suspension including a walking beam and leaf spring means.

686, for a tandem axle suspension including leaf spring means.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 36.1+ for a vehicle leaf spring device or sub-

classes 229+ for a vehicle spring device including a lever and a leaf spring.

124.171 Transverse:

This subclass is indented under subclass 124.17. Subject matter wherein the leaf spring is disposed laterally across the vehicle body, chassis, or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.115, for a rocking and swinging axle which may or may not include a transverse leaf spring.

124.124, for a swinging axle wherein a fifth wheel is supported upon a transverse leaf spring.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 246 for a vehicle leaf spring device wherein the leaf spring is disposed laterally of the vehicle chassis.

124.172 Reach attached:

This subclass is indented under subclass 124.171. Subject matter wherein the transverse leaf spring is connected to a member longitudinally interconnecting front and rear axles (i.e., reach).

124.173 Sidebar attached:

This subclass is indented under subclass 124.171. Subject matter including a longitudinally extending member (i.e., sidebar) disposed along a side of the vehicle and wherein the transverse leaf spring is connected to the longitudinally extending member.

SEE OR SEARCH CLASS:

267, Spring Devices, subclass 39 for a vehicle leaf spring device wherein the leaf spring is secured to sidebars disposed longitudinally of the vehicle chassis.

124.174 Plural cooperating leaf springs (e.g., full elliptical spring, helper springs):

This subclass is indented under subclass 124.17. Subject matter including multiple leaf springs associated and acting together within a common support region of the vehicle body, chassis, or frame.

(1) Note. A single leaf spring constructed of plural flexible strips is not considered proper for this subclass.

(2) Note. A symmetrical arrangement, providing mere duplication of a leaf spring suspension upon each lateral side of the vehicle body, chassis, or frame, is not to be considered plural cooperating leaf springs located within a common support region of the vehicle body, chassis, or frame and is not proper for classification in this subclass.

124.175 Connection detail:

This subclass is indented under subclass 124.17. Subject matter wherein significance is attributed to an attachment of the leaf spring to either (a) the vehicle body, chassis, or frame; (b) the axle; or (c) the wheel.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 260+ for vehicle leaf spring connection details.

124.176 Lateral force compliance for steering deflection:

This subclass is indented under subclass 124.175. Subject matter wherein the attachment enables limited alteration (i.e., compliance) of a spatial alignment between an axle or wheel carrier and the vehicle body, chassis, or frame when the vehicle executes arcuate travel (i.e., steering deflection).

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.52+, for an active suspension responsive while the vehicle is in surface traversing motion wherein a spatial relationship of the running gear is regulated.

86.75+, for a wheeled land vehicle including means for enabling static alignment adjustment of the running gear upon the vehicle.

124.177 Elastomeric spring:

This subclass is indented under subclass 124.164. Subject matter wherein the mechanical spring element is a mass of rubber or rubber-like resilient material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.5, for an auxiliary axle assembly which may or may not include an elastomeric spring.

124.169, for a torsion spring comprising elastomeric material.

681, for a tandem axle including a walking beam and an elastomeric spring.

687, for a tandem axle including an elastomeric spring.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 257+ for a vehicle spring device including the combination of a lever and an elastomeric spring or subclasses 292+ for an elastomeric vehicle spring device.

124.178 Shear force:

This subclass is indented under subclass 124.177. Subject matter wherein the mass resists deformation from a transversely applied impetus.

124.179 Coil spring:

This subclass is indented under subclass 124.164. Subject matter wherein the mechanical spring element is a helical or spiral wire element subjected to compression or tension.

SEE OR SEARCH THIS CLASS, SUBCLASS:

86.5, for an auxiliary axle assembly which may or may not include a coil spring.

124.125+, for a suspension arrangement for separately supporting a wheel upon an individual stub axle which may or may not include a coil spring.

124.162, for a fluid suspension arrangement including a mechanical spring wherein the mechanical spring may or may not be a coil spring.

124.168, for a helical form torsion spring.

685, for a tandem axle including a coil spring.

SEE OR SEARCH CLASS:

267, Spring Devices, subclasses 248+ for a vehicle spring device including the combination of a lever and a coil spring or subclasses 286+ for a vehicle coil spring device.

137.5 Turnable axle (e.g., fifth-wheel or swinging axle):

This subclass is indented under subclass 80.1. Subject matter wherein a transverse shaft or member supporting laterally opposed wheels includes (a) a coupling assembly of two coaxially mounted rotatable disks or disk segments or (b) a vertical pivot axis to enable arcuate travel.

(1) Note. Included herein is a horizontal swinging axle lacking resilient, shock absorbing interconnection between the swinging axle and the vehicle body, chassis, or frame. A horizontal swinging axle including interposed resilient, shock absorbing interconnection is not proper for this subclass but is provided for earlier in the class schedule.

(2) Note. Included herein is a horizontal swinging axle for a drawn vehicle lacking the recitation of a draft vehicle.

(3) Note. A horizontal swinging axle including occupant controlled steering means is not proper for classification in this or the indented subclasses but is provided for earlier in the class schedule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.504+, for a vehicle having a horizontal swinging axle including occupant controlled steering means.

124.114+, for a vertical rocking axle which is additionally mounted for horizontal swinging movement to execute arcuate movement of the vehicle.

124.117+, for a horizontal swinging axle including interposed resilient, shock absorbing interconnection between the swinging axle and the vehicle body, chassis, or frame.

124.172, for a vehicle body, chassis, or frame resiliently, shock absorbingly mounted upon a transverse, reach mounted leaf spring wherein one axle is a horizontal swinging axle.

400+, for an articulated vehicle or plural interconnected vehicles (i.e., vehicle train) which may or may not include a horizontal swinging axle.

137.501 With draft attachment:

This subclass is indented under subclass 137.5. Subject matter including means for connection to a source of pulling force.

(1) Note. Shafts or tongues neither claimed nor disclosed as a handle are included herein.

(2) Note. Shafts or tongues including a nominal recitation of interconnection with another vehicle are included herein.

(3) Note. Futchel or futchell, one of the pieces of wood or metal forming a socket for a pole or thill, is included within the scope of a means for connecting to a source of pulling force.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.11, for an attendant steered vehicle having plural horizontal swinging axles controlled by a handle draft member connected to one of the swinging axles.

47.17+, for a tiltable, attendant or article stabilized, handle-propelled vehicle which may or may not include a horizontal swinging axle.

47.34+, for a stable, handle-propelled vehicle which may or may not include a horizontal swinging axle.

87.01+, for a coaster vehicle which may or may not include a horizontal swinging axle.

98+, for a general utility wheeled land vehicle running gear specially constructed for enabling arcuate travel within a reduced radius of curvature (i.e., short turn) which involves other than a mere swinging axle which may involve a draft attachment, especially subclass 103 which includes stub axle supported wheels.

108, for draft connection or tongue antivibrators.

124.114+, for a vertical rocking and horizontal swinging axle which may or may not include a draft attachment.

124.12, for a horizontal swinging axle including interposed resilient, shock absorbing interconnection between the horizontal swinging axle and the vehicle body, chassis, or frame provided with a draft attachment.

400+, for articulated vehicles including interconnecting draft attachment means, especially subclasses 408+ wherein draft attachment means are provided upon both ends of at least one of the connected vehicles; subclass 416 wherein the draft attachment means is convertible so that the vehicle may be drawn by either animals or another vehicle; subclasses 442+ wherein the draft attachment means interconnection serves to steer the trailing vehicle in response to articulative movement; subclasses 456.1+ wherein the draft attachment means between interconnected vehicles is laterally adjustable; subclasses 478.1+ wherein the draft attachment means is bodily shiftable to facilitate vehicle coupling; subclasses 483+ wherein the draft attachment means is resiliently biased to prevent movement in at least one direction; or subclasses 491.1+ wherein the draft attachment means has a use and a nonuse position.

655.1, for an extensible vehicle wherein only a handle draft member thereof is foldable.

137.502 Fifth-wheel or pivot details:

This subclass is indented under subclass 137.5. Subject matter wherein significance is attributed to the (a) the fifth-wheel or (b) the vertical pivot.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.115, for a horizontal rocking and vertically swinging axle including a fifth-wheel coupling creating the vertical pivot axis.

124.124, for a swinging axle wherein a fifth wheel is positioned upon a transverse leaf spring.

137.501, for a fifth wheel or swinging axle including means for connection to a source of pulling force. See the search notes thereunder for additional relevant subclasses.

433+, for a fifth wheel coupling between a tractor and a semitrailer.

137.503 Spherical union (i.e., ball and socket joint):
This subclass is indented under subclass 137.502. Subject matter including a bulbous member (i.e., ball) interfitting within a concave member (i.e., socket) creating the vertical pivot axis.

137.504 Perch or reach bracing:
This subclass is indented under subclass 137.502. Subject matter including strengthening means between the turnable axle and an elongated member which interconnects front and rear axles of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
139, for a brace, known as a hound, which either (a) extends between a shaft or tongue and an articulated axle or (b) between a perch or reach and a rear axle.
140, for specific construction of an elongate member interconnecting front and rear axles of the vehicle, known as either a perch or reach.

137.505 Offset pivot:
This subclass is indented under subclass 137.502. Subject matter wherein the vertical pivot axis is displaced from the longitudinal axis of the turnable axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124.122, for a swinging axle including resilient, shock absorbing support having an offset pivot.

137.506 Kingbolt detail:
This subclass is indented under subclass 137.502. Subject matter wherein significance is attributed to a vertical pin or rod defining the pivot axis of the turnable axle.

137.507 Antirattler:
This subclass is indented under subclass 137.502. Subject matter including means for limiting or preventing vibration induced noise created by movement of cooperating parts.

(1) Note. These are usually resilient means for holding the two rubbing members of a fifth wheel in close contact.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124.108, for a suspension construction specifically provided to abate mechanically generated noise.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 452 for sound deadeners for railway rolling stock.

139 This subclass is indented under subclass 80.1. Devices comprising braces between the tongue and front axle or between the reach and rear axle.

140 This subclass is indented under subclass 80.1. Devices comprising connecting members between the front and rear axle running-gear.

141 This subclass is indented under subclass 140. Reaches having a swivel-joint to allow the front and rear axle gears to oscillate in vertical planes independently of each other.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124.117+, for a general utility wheeled land vehicle including a swinging axle including resilient, shock absorbing support for the vehicle body, chassis, or frame which may or may not involve a perch or reach.
137.5+, for a general utility wheeled land vehicle including a swinging axle lacking resilient, shock absorbing support which may or may not involve a perch or reach, especially subclass 137.504 which includes perch or reach bracing.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclasses 579+ for pitmans and connecting rods.
403, Joints and Connections, subclasses 52+ for swivel joints of general utility, particularly subclasses 78+.

142 This subclass is indented under subclass 140. Reaches which are adjustable in length.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclass 586 for longitudinally adjustable pitmans and connecting rods.

143 This subclass is indented under subclass 80.1. Devices comprising transverse bolsters formed with standards at each end and adapted to support either a load or a load carrier.

(1) Note. The patents in this subclass and those indented under it show the combination of a bolster with its standard or either of the elements, per se.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 380+ for similar devices for rail vehicles.
296, Land Vehicles: Bodies and Tops, subclass 43 for stakes and sockets for vehicle bodies.

144 This subclass is indented under subclass 143. Bolsters having means operative to vary the distance between the standards to accommodate varying widths of load or load-carriers.

SEE OR SEARCH THIS CLASS, SUBCLASS:
638+, for extensible vehicles.

145 This subclass is indented under subclass 143. Bolsters having a pivotal connection between the standards and the bolster.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 381 for side folding stakes for railway cars.

146 This subclass is indented under subclass 143. Bolsters having means to adjust the standard vertically to increase or decrease its length.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 389+ for telescopic stakes for railway cars.

147 This subclass is indented under subclass 143. Bolsters having means securing the standards to the bolsters such that the standard can be quickly and easily removed from the bolster.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 382+ for releasable stakes for railway cars.

148 This subclass is indented under subclass 143. Devices having bolsters supplemental to the regular bolsters and either superposed thereon or in an intermediate position for supporting the load or load-carrier.

149 This subclass is indented under subclass 80.1. Devices comprising iron elements of a running-gear, especially U-shaped devices for securing the various parts of a running gear together, including also the yokes for connecting the legs of the U-shaped devices.

149.1 Interchangeable axles:
This subclass is indented under subclass 80.1. Vehicles in which the axle carrying the running gear may be replaced by a different axle providing a different running gear arrangement.

149.2 Longitudinally shiftable running gear:
This subclass is indented under subclass 80.1. Vehicles in which the running gear units may be moved along a line extending in the direction of travel as an assembly, typically to change the wheel base.

SEE OR SEARCH THIS CLASS, SUBCLASS:
638+, for a vehicle including means for altering a dimension of the vehicle or a part thereof.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 24.02 for vertically moveable running gear for shifting or proportioning the load, e.g., tag axles.

151 This subclass is indented under subclass 727. Mechanical devices attached to a vehicle other than a motor-vehicle and operated by the driver of the vehicle to assist in starting a heavy load.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 35+ for car pushing implements.

278, Land Vehicles: Animal Draft Appliances, subclass 2 for load starters, combined with animal draft appliances.

152.05 This subclass is indented under subclass 847. Dust or mud guards including a wheel or tire carrying means, e.g., a fender well.

SEE OR SEARCH CLASS:

224, Package and Article Carriers, subclass 42.12 for vehicle attached wheel or tire carriers when no modification of the vehicle structure is involved.

296, Land Vehicles: Bodies and Tops, appropriate subclasses for modifications of a vehicle body to provide a means to receive and carry a tire or wheel especially subclass 37.2 for auxiliary wheel compartment provided in the vehicle body.

152.1 This subclass is indented under subclass 847. Dust and mud guards especially designed for velocipedes.

152.2 This subclass is indented under subclass 152.1. Dust and mud guards which are combined with wheel guards.

SEE OR SEARCH THIS CLASS, SUBCLASS:

160.1, for wheel guards, per se.

152.3 This subclass is indented under subclass 152.1. Dust and mud guards in which the guard is flexible or made in sections.

SEE OR SEARCH CLASS:

160, Flexible or Portable Closure, Partition, or Panel, for structurally similar devices, not vehicle dust or mud guards, particularly subclasses 45+, for awning type; and 130+, for plural strip, slat or panel type as there defined.

153.5 This subclass is indented under subclass 848. Devices comprising anti-squeak welts or moldings adapted to be disposed between a mudguard and the body or frame of a land vehicle.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 393+ for a structure having a relatively yieldable preformed member separating other components.

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclasses 628+ for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable.

154 This subclass is indented under subclass 848. Dust and mud guards having means for attaching them to the body of a vehicle.

155 This subclass is indented under subclass 847. Dust and mud guards secured to the thill or tongue of a vehicle.

156 This subclass is indented under subclass 847. Dust and mud guards secured to the wheel of the vehicle.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclass 154 for mud guards attached to resilient tires.

157 This subclass is indented under subclass 847. Dust and mud guards secured to the axle of a vehicle.

158.1 This subclass is indented under subclass 855. Wheel scrapers and cleaners especially designed for velocipedes.

159 This subclass is indented under subclass 727. Devices for protecting occupants of a vehicle from road-dust.

SEE OR SEARCH CLASS:

296, Land Vehicles: Bodies and Tops, subclasses 77.1+ for storm fronts, shields, aprons, and robes for vehicle bodies.

160 This subclass is indented under subclass 727. Devices for fending obstacles (not persons) from contact with the wheels of a vehicle.

SEE OR SEARCH CLASS:
- 172, Earth Working, subclasses 810+ for an earth working tool positioned ahead of a motor vehicle and subclasses 508+ for a guard, shield or plant diverter for an earth working apparatus.
- 293, Vehicle Fenders, for fenders for vehicles, especially subclass 58 for individual wheel guards and 102+ for automobile bumpers.

160.1 This subclass is indented under subclass 160. Wheel guards specially designed for velocipedes.

SEE OR SEARCH CLASS:
- 474, Endless Belt Power Transmission Systems or Components, subclasses 144+ for a guard or housing for a belt or pulley.

161 This subclass is indented under subclass 727. Devices for protecting a part of a vehicle from injury by movement of another part thereagainst.

SEE OR SEARCH CLASS:
- 105, Railway Rolling Stock, subclass 452 for sound deadeners for railway rolling stock.
- 296, Land Vehicles: Bodies and Tops, subclass 41 for wear strips for vehicle bodies.

162 This subclass is indented under subclass 161. Chafe irons having a roller as a part.

163 This subclass is indented under subclass 727. Devices comprising a platform secured to a vehicle to facilitate the entry or exit of a person.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 291, for steps for occupant propelled vehicles.

SEE OR SEARCH CLASS:
- 52, Static Structures (e.g., Buildings), subclasses 182+ for a stepped structure of more general utility.
- 105, Railway Rolling Stock, subclasses 443+ for steps for railway vehicles.
- 182, Fire Escape, Ladder, or Scaffold, subclasses 82+ for a wall or floor attached ladder or step.
- 296, Land Vehicles: Bodies and Tops, subclass 75 for vehicle body footrests.

164.1 Combined devices:
This subclass is indented under subclass 163. Steps having a part or attachment for performing an additional purpose or function.

164.2 Steps combined with shoe scrapers:
This subclass is indented under subclass 164.1. Devices where the additional function is removing dirt from shoes or boots.

(1) Note. The scraper may only provide a nominal stepping function, actually serving as an interim nonloaded resting position, to clean the boot, in the process of entering the vehicle.

SEE OR SEARCH CLASS:
- 15, Brushing, Scrubbing, and General Cleaning, subclasses 237+, for boot scrapers not claimed in combination with vehicle structure.
- 296, Land Vehicles: Bodies and Tops, subclass 199 for door sills.

165 This subclass is indented under subclass 163. Steps attached to the wheel or axle of the vehicle.

166 This subclass is indented under subclass 163. Steps having means permitting the step to be moved to various positions.

SEE OR SEARCH CLASS:
- 182, Fire Escape, Ladder, or Scaffold, subclass 91 for a wall or floor attached pivoted step.

169 This subclass is indented under subclass 163. Devices relating to foot-engaging portion of the step.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 177+ for a wear or friction carrying surface of more general utility.

170 This subclass is indented under subclass 727. Devices comprising socket devices for holding a whip.

171 This subclass is indented under subclass 170. Whip sockets having means to grip the whip to hold it in the socket.

SEE OR SEARCH THIS CLASS, SUBCLASS:

176, for somewhat similar devices where the whip-gripping means is locked in its gripping position.

172 This subclass is indented under subclass 171. Whip sockets where the gripping means is a spring.

173 This subclass is indented under subclass 171. Whip sockets where the gripping means is a rubber gasket.

174 This subclass is indented under subclass 171. Whip sockets where the whip-socket is formed of pivotally connected sections.

175 This subclass is indented under subclass 170. Devices to secure a whip-socket to a vehicle part.

176 This subclass is indented under subclass 170. Whip-sockets having locking means to secure the whip against displacement.

(1) Note. Many of the patents in this subclass have some form of whip-gripping means in combination with a lock to positively hold the said means in the whip-gripping position.

177 This subclass is indented under subclass 170. Whip sockets having means for holding the lines when not in use.

178 This subclass is indented under subclass 170. Whip sockets having means operable by the driver of a vehicle to use the whip without withdrawal thereof from the socket.

180 This subclass is indented under subclass 179. Load binders where the load is hay or similar material.

181 This subclass is indented under subclass 727. Devices providing means to support the reins out of engagement with a part of the vehicle or tail of the horse.

182 This subclass is indented under subclass 727. Devices providing means for holding the lines when not in use.

SEE OR SEARCH THIS CLASS, SUBCLASS:

177, for reinholders combined with whip sockets.

183 This subclass is indented under subclass 182. Reinholders comprising a clamp.

184 This subclass is indented under subclass 183. Reinholders in which the clamp is spring-operated.

185 This subclass is indented under subclass 184. Reinholders in which the clamp has spring-pressed pivoted jaws.

186 This subclass is indented under subclass 727. Devices connected to a vehicle operable to prevent movement of the draft animals when left standing, to stop said draft-animals in case the driver loses control, and also mechanical devices for guiding and controlling said draft-animals.

187 This subclass is indented under subclass 186. Devices comprising a weight attached to a tie-line and secured to the vehicle in such a manner as to be readily dropped by the driver.

(1) Note. This subclass also includes the structure of the weight, per se.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclass 404, for other weights.

188 This subclass is indented under subclass 186. Devices in which a rod pivoted to the vehicle and connected to a tie-line can by the engagement of its free end with the ground cause a tension of the line.

189 This subclass is indented under subclass 186. Devices for pulling tension on the driving-lines or separate tie-lines operated by the wheels of the vehicle.

190 This subclass is indented under subclass 189. Devices where the lines are wound upon a drum.

191 This subclass is indented under subclass 190. Devices having a shiftable gear transmission between the drum and wheel.

192 This subclass is indented under subclass 190. Devices provided with a clutch between the drum and wheel.

200 This subclass is indented under subclass 29. Vehicles of the type in which there is provided some positive means adapting the vehicle to be propelled by the occupant.

(1) Note. These subclasses do not include those vehicles pushed along by the hands or feet of the occupant, for which see the search notes below.

(2) Note. Due to their closeness in structure, motorcycle frames and running gear are included in this group. Where features are claimed limiting the device to a motor vehicle, it is classified elsewhere. See the Search Class notes below for a motor vehicle having a wheel arrangement comprising two wheels in tandem relationship.

SEE OR SEARCH THIS CLASS, SUBCLASS:

7.1, 87.01+ for those vehicles pushed along by the hands or feet of the occupant.

43.1, for a vehicle having vertically adjustable ground engaging means and which is unstable when in transporting position but which is stabilized by an attendant or an article to which the vehicle is temporarily attached.

827, for simulation type velocipedes, and see the Note to that subclass for the line.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, appropriate subclasses, for propulsion means, per se, including cranks and pedals, and also where necessary vehicle parts, as frame or drive wheel, are included by name only.

105, Railway Rolling Stock, subclasses 86+ for trackman's car drive.

180, Motor Vehicles, subclasses 219+ for a motor vehicle having a wheel arrangement comprising two wheels in tandem relationship.

244, Aeronautics, subclass 64 for manual propulsion for aircraft.

267, Spring Devices, subclass 132 for a spring device useful as a velocipede seat support.

384, Bearings, subclass 431 for a plain bearing and subclass 457 for an antifriction bearing for a crankshaft which may include mounting or supporting structure for the bearing.

440, Marine Propulsion, subclass 12, 21+ and 94, for hand and foot powered propulsion means for movement through water, and see the definition of “vessel” in Class 440 in the Class Definition.

201 This subclass is indented under subclass 200. Vehicles in which a pump is formed as a part of the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

202, for pump carriers.

216, for pumps combined with a propelling system.

295, for pumps combined with props.

SEE OR SEARCH CLASS:

152, Resilient Tires and Wheels, subclasses 415+ for pumps constructed and arranged so as to be capable of inflating the tires while the vehicle is in motion.

417, Pumps, subclasses 231+ for pumps attached to vehicles and actuated thereby.

202 This subclass is indented under subclass 200. Vehicles in which means is provided in the organized vehicle for carrying additional passengers or articles.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47.35, handle propelled stable vehicles having plural load supports.
209, for parallel connected cycles.
222, 231+ and 273+, for plural occupant propelled and/or controlled vehicles.

SEE OR SEARCH CLASS:
224, Package and Article Carriers, subclasses 400+ for mere attachments for carrying articles.
297, Chairs and Seats, subclasses 234+ for an auxiliary seat supported by a primary seat.

203 This subclass is indented under subclass 202. Vehicles in which the additional carrying means is in the form of a side car.

204 This subclass is indented under subclass 202. Vehicles in which the additional carrying means is in the form of a trailing vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
400+, for vehicle trains and articulated vehicles.

205 This subclass is indented under subclass 200. Vehicles which have a single wheel or two wheels having a common axis.

(1) Note. Additional steadying wheels may be provided but such wheels are not intended to contact the ground when the vehicle is in normal operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47.2, for handle-propelled tiltable type vehicles with auxiliary wheel stabilizing means.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclass 142 for human balance type monorail vehicles.

206 This subclass is indented under subclass 205. Vehicles in which the occupant rides within the periphery of the wheel.

207 This subclass is indented under subclass 206. Vehicles in which both (1) the occupant support rides on and (2) power is applied to one or more annuli concentric with the wheel axis.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 10 for motor vehicles with annular portable track.

208 This subclass is indented under subclass 206. Vehicles which have two wheels side by side.

209 This subclass is indented under subclass 200. Vehicles in which means is provided for connecting two cycles in parallel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
202+, 222, 231+, and 273, for organized vehicles having means for carrying additional passengers.

SEE OR SEARCH CLASS:
297, Chairs and Seats, subclasses 248+ for parallel seats having means to couple adjacent ones together.

210 This subclass is indented under subclass 200. Vehicles which have some positive means operable by the occupant for propelling the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
3, for vehicles propelled by a person walking alongside the vehicle.

SEE OR SEARCH CLASS:
70, Locks, subclass 236 for means for locking the propulsion.

74, Machine Element or Mechanism, appropriate subclass, for mechanical movements, per se, including cranks and pedals.
105, Railway Rolling Stock, subclasses 86+ for trackmen's cars.
244, Aeronautics, subclass 64 for manual aircraft propulsion.
440, Marine Propulsion, subclasses 21+ for boats and other vessels propelled by foot or hand power, and see the definition of "vessel" in Class 440 in the class definition.
482, Exercise Devices, particularly subclasses 57+ for an exercise device involving user translation on a bicycle or physical simulation thereof.

211 This subclass is indented under subclass 210. Vehicles in which the propelling means is operable to steer the vehicle, i.e., one wheel may be driven faster than the other to steer the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
208, for bicycle similarly steered.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 6.2+ for motor vehicles steered by driving.

212 This subclass is indented under subclass 210. Vehicles in which the occupant operated propulsion means involves some means for storing energy, which energy is expended in driving the vehicle.

213 This subclass is indented under subclass 212. Vehicles in which the added power is a sail attachment.

SEE OR SEARCH THIS CLASS, SUBCLASS:
11.37, for skaters' sails.

214 This subclass is indented under subclass 212. Vehicles in which the occupant operated propulsion means may, at least selectively, directly propel the vehicle without aid of the storing means.

215 This subclass is indented under subclass 214. Vehicles in which the added energy device is interposed in the occupant operated propelling train.

216 This subclass is indented under subclass 215. Vehicles in which the interposed energy device is a fluid power plant.

SEE OR SEARCH CLASS:
60, Power Plants, appropriate subclasses, for such power plants, per se.

217 This subclass is indented under subclass 215. Vehicles in which the interposed energy device is a flywheel or weight.

218 This subclass is indented under subclass 210. Vehicles in which the fore part of the vehicle moves forward alternately with the rear part. Usually the occupant alternately applies and releases his weight from the vehicle seat.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1, for similar vehicles having no wheels.
1.181+, for similar vehicles of the simulation type.

219 This subclass is indented under subclass 210. Vehicles in which the propelling means is constructed to intermittently contact the surface over which the vehicle travels to push the vehicle along.

SEE OR SEARCH THIS CLASS, SUBCLASS:
12.11, for sleds similarly propelled.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 187 for a motor vehicle which includes one or more ski-like or runner members and wherein the vehicle is provided with at least one surface-engaging propulsion element and further wherein the element has a shuffling movement along the surface which supports it; and subclass 8.1 for a motor vehicle having a special driving device in the nature of a stepper.

220 This subclass is indented under subclass 210. Vehicles in which the occupant support moves during the propulsion of the vehicle to facilitate its propulsion. The movable support usually is capable of propelling or assisting to propel the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1.191+, for similar vehicles of the simulation type.
218, for steppers and other nonsimulating velocipedes in which the supports advance alternately.

SEE OR SEARCH CLASS:
185, Motors: Spring, Weight, or Animal Powered, subclass 15.5 for motors operated by a pivoted seat.
297, Chairs and Seats, subclasses 195.1+ for a saddle type seat, subclasses 285+ for a resiliently mounted seat back, and subclass 312 for seat bottom having resiliently mounted independently movable sections.

221 This subclass is indented under subclass 220. Vehicles in which the movable support is so connected with the propelling train as to propel or assist in propelling the vehicle.

222 This subclass is indented under subclass 221. Vehicles which are constructed to be propelled by more than one occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
231+, for plural occupant propelled vehicles.

223 This subclass is indented under subclass 221. Vehicles which have occupant operated means other than the movable occupant support for propelling the vehicle.

224 This subclass is indented under subclass 223. Vehicles in which the added propelling means is constructed to be operated by both the hands and feet of the operator.

SEE OR SEARCH THIS CLASS, SUBCLASS:
232, and 233+, for other hand and foot propelled vehicles.

225 This subclass is indented under subclass 223. Vehicles in which the added propelling means is constructed to be operated by the hands of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
242.1+, for other hand propelled vehicles.

226.1 Movable seat:
This subclass is indented under subclass 221. Vehicles in which the movable occupant support is constructed to seat the occupant.

SEE OR SEARCH CLASS:
185, Motors: Spring, Weight, or Animal Powered, subclass 15.5 for motors operated by a pivoted seat.

227 This subclass is indented under subclass 226.1. Vehicles in which the crank hanger moves in unison with the seat.

228 This subclass is indented under subclass 221. Vehicles which are adapted to be operated by the feet of the occupant as in walking.

SEE OR SEARCH CLASS:
185, Motors: Spring, Weight, or Animal Powered, subclass 16 for belt tread operated motors.
482, Exercise Devices, particularly subclass 54 for an exercise treadmill device.

229 This subclass is indented under subclass 220. Vehicles in which the occupant support moves by reason of supporting wheels being eccentrically mounted.

230 This subclass is indented under subclass 210. Vehicles which have more than one point of power application by the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
212+, for added or stored energy devices.

223+, for movable occupant support operated vehicles with added power application.

231 This subclass is indented under subclass 230. Vehicles which are designed to be propelled by more than one occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
202+, 209, 222, and 273, for other plural occupant propelled vehicles.

232 This subclass is indented under subclass 231. Vehicles designed to be operated by the hands of one occupant and the feet of another or by both the hands and feet of all occupants.

SEE OR SEARCH THIS CLASS, SUBCLASS:
224, 225, 233+, and 242.1+, for other hand or hand and foot operated vehicles.

233 This subclass is indented under subclass 230. Vehicles which are designed to be operated by both the hands and feet of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
224, 225, 232, and 242.1+, for other hand and hand and foot operated vehicles.

234 This subclass is indented under subclass 233. Vehicles in which the propelling means is interconnected with the steering means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
240, for similar devices for single occupant vehicles.

235 This subclass is indented under subclass 233. Vehicles which are constructed to be steered by the seat of the vehicle or the body of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
266, for occupant propelled vehicles with seat or body steering.

236 This subclass is indented under subclass 210. Vehicles which have means for reversing the direction of drive or for varying the ratio of mechanical advantage between the power source and the wheel.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, appropriate subclass, for change speed or reversing gearing.
475, Planetary Gear Transmission Systems or Components, for change-speed or reversing planetary transmission.

237 This subclass is indented under subclass 236. Vehicles which have means for reversing the direction of drive.

238 This subclass is indented under subclass 236. Vehicles in which at least two trains of gearing of different ratio are provided with a shiftable clutch or gear adapted to put one or another train into operation.

239 This subclass is indented under subclass 210. Vehicles which are provided with three wheels in tandem.

240 This subclass is indented under subclass 210. Vehicles in which the propelling means is interconnected with the steering means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
234, for plural power application vehicles of this type.

241 This subclass is indented under subclass 210. Vehicles in which the propelling means includes a belt or chain adapted to be intermittently gripped by the power applying means.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclasses 136+ and 138+ for similar mechanisms of general application.

242.1 Hand propelled:
This subclass is indented under subclass 210. Vehicles in which the propulsion means is operated by the hands of the operator.

SEE OR SEARCH THIS CLASS, SUBCLASS:

224, 225, 232, and 233, for hand propulsion in combination with some other occupant propulsion.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclasses 86+, for trackmen's cars.

243 This subclass is indented under subclass 242.1. Vehicles in which the propelling means includes a strap, rope or other flexible member adapted to be wound and unwound on a ratcheted or overrunning drum.

SEE OR SEARCH THIS CLASS, SUBCLASS:

251, for other propulsion means of this type, e.g., foot.

244 This subclass is indented under subclass 242.1. Vehicles in which the propelling means includes an oscillating lever.

SEE OR SEARCH THIS CLASS, SUBCLASS:

253, for other propulsion means of this type, e.g., foot.

245 This subclass is indented under subclass 244. Velocipedes in which the oscillating lever operates a rack and pinion to propel the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

254, for foot operated mechanisms.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 29+ and 130+ for similar mechanisms of general application.

246 This subclass is indented under subclass 244. Vehicles in which the lever is connected to the drive wheel by a link or linkage system with a ratchet or overrunning clutch interposed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

255, for foot operated mechanisms.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 142+ for mechanical movements of this type.

247 This subclass is indented under subclass 244. Vehicles in which the lever is connected to a crank by a link or linkage system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

256, for foot operated mechanisms.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, appropriate subclass indented under subclass 25, for mechanical movements of this type.

248 This subclass is indented under subclass 247. Vehicles in which a gearing system is interposed in the propelling mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:

257, for foot operated mechanisms.

249 This subclass is indented under subclass 242.1. Vehicles in which the power is applied through a hand wheel or crank with gearing interposed between the crank and ground wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

259+, for foot operated mechanisms.

250 This subclass is indented under subclass 249. Vehicles in which the gearing is a belt or chain gearing.

SEE OR SEARCH CLASS:

474, Endless Belt Power Transmission Systems or Components, appropriate subclasses for a power transmission using a belt or chain drive system.

250.1 Wheelchair type:

This subclass is indented under subclass 242. Vehicles for use by a seated disabled occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:

647+, for folding wheelchairs.

251 This subclass is indented under subclass 210. Vehicles in which the propelling means includes a strap, rope or other flexible member adapted to be wound and unwound on a ratcheted or overrunning drum.

SEE OR SEARCH THIS CLASS, SUBCLASS:
243, for similar hand propulsion means.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclasses 136+ and 138+ for mechanical movements of this type.

252 This subclass is indented under subclass 210. Vehicles in which the power is applied by a straight line reciprocation.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclasses 25+ for mechanical movements of this type.

253 This subclass is indented under subclass 210. Vehicle in which the power is applied by an oscillating lever.

SEE OR SEARCH THIS CLASS, SUBCLASS:
244+, for hand propulsion means of this type.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 86+ for trackmen's cars.

254 This subclass is indented under subclass 253. Vehicles in which the power is transmitted from the lever to the wheel by the inclusion of a rack and pinion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
245, for manually operated devices of this type.

255 This subclass is indented under subclass 253. Vehicles in which the power is transmitted from the lever to the wheel by a link or linkage and a ratchet or overrunning clutch.

SEE OR SEARCH THIS CLASS, SUBCLASS:
246, for manually operated devices of this type.

256 This subclass is indented under subclass 253. Vehicles in which the power is transmitted from the lever to the wheel by a link or linkage and crank.

SEE OR SEARCH THIS CLASS, SUBCLASS:
247+, for manually operated devices of this type.

257 This subclass is indented under subclass 256. Vehicles in which a gear train is interposed in the drive.

258 This subclass is indented under subclass 253. Vehicles in which the lever is connected to a train of gearing by means of a ratchet or overrunning clutch.

259 This subclass is indented under subclass 210. Vehicles in which the power is applied through a rotary crank.

SEE OR SEARCH THIS CLASS, SUBCLASS:
249+, for manually operated devices of this type.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, appropriate subclasses, especially subclasses 594.1+ for cranks and pedals.

260 This subclass is indented under subclass 259. Vehicles in which a train of gearing is interposed between the crank and wheel.

261 This subclass is indented under subclass 260. Vehicles in which the gearing is a belt or chain gearing.

SEE OR SEARCH CLASS:
474, Endless Belt Power Transmission Systems or Components, appropriate subclasses for a power transmission using a belt or chain drive system.

262 This subclass is indented under subclass 259. Vehicles in which the crank is connected to a wheel crank by means of a pitman or connecting rod.

263 This subclass is indented under subclass 200. Vehicles in which means is provided for steering the vehicle by the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 1.206, for simulation type velocipedes steered by reins.
- 1.207, for simulation type velocipedes steered by stirrups.
- 211, for occupant propelled vehicles steered by driving.
- 234, and 235, for vehicles with hand and foot propulsion and combined steering means.
- 240, for occupant propelled vehicles with interconnected steering means.
- 771+, for vehicles steered by the occupant, but not occupant propelled.

SEE OR SEARCH CLASS:
- 70, Locks, subclass 233 for steering wheel locks.
- 74, Machine Element or Mechanism, subclasses 551+ for handle bars.

264 This subclass is indented under subclass 263. Vehicles in which the steering means is combined with the brake.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 88, for occupant steered vehicles with combined steering and brake.

SEE OR SEARCH CLASS:
- 188, Brakes, subclasses 24.11+ for velocipede brakes, per se.

265 This subclass is indented under subclass 263. Vehicles in which the vehicle is constructed to be steered by the feet of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 1.207, for velocipede type simulations steered by stirrups.
- 87.1, for vehicles with foot operated steering means.

266 This subclass is indented under subclass 263. Vehicles which are constructed to be steered by the seat of the vehicle or by the body of the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 235, for hand and foot propelled vehicles steered by seat or bodies.

267 This subclass is indented under subclass 263. Vehicles which are steered by means of two wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 771+, for other occupant steered vehicles.

268 This subclass is indented under subclass 267. Vehicles in which means is provided for holding the vehicle in a straight course or for returning the steering wheels to their normal forward position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 89+, for steering gear checks.
- 271, for one wheeled steering with centering.

269 This subclass is indented under subclass 267. Vehicles in which each steering wheel is mounted on a separate stub axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
- 93.502+, for a general utility wheeled land vehicle including particular occupant control of stub axle supported steerable road wheels.
- 124.125+, for particular construction of running gear for a general utility wheeled land vehicle separately supporting a wheel upon an individual stub axle.

270 This subclass is indented under subclass 263. Vehicles in which the steering is controlled by a single wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

92, for occupant steered vehicles having one wheel control.

271 This subclass is indented under subclass 270. Vehicles in which means is provided for holding the vehicle in a straight course or for returning it to the straight forward position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

89+, for a general utility wheeled land vehicle including occupant controlled steering having means for inhibiting or prohibiting unintended variant operation of the steerable road wheels.

108, for draft or tongue antivibrators.

268, for an occupant propelled-type wheeled land vehicle including steering control by two steerable road wheels and having means for restraining or returning the two steerable road wheels to a straight-line orientation.

272 This subclass is indented under subclass 270. Vehicles in which means is provided for restraining steering movement of the wheel.

(1) Note. Includes latches for holding the wheel against turning movement.

SEE OR SEARCH CLASS:

70, Locks, especially subclasses 233+ for locks claiming merely conventional bicycle structure in combination with a particular key operated or combination lock.

273 This subclass is indented under subclass 270. Vehicles which are designed to support and be steered by plural occupants.

SEE OR SEARCH THIS CLASS, SUBCLASS:

202, 209, 222, and 231+, for other plural occupant vehicles of the occupant propelled type.

274 This subclass is indented under subclass 270. Vehicles in which only the frame and running gear is claimed.

(1) Note. In accordance with the (2) Note of subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in this subclass and the subclasses indented hereunder.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5.5+, for a land vehicle including suspension modification enacted as a result of a force encountered during surface traversing motion.

281.1+, where no steering feature is claimed. The mere naming of the steering head will not operate to keep the patent out of subclasses 281.1+.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 218+ for self-propelled land vehicles normally traveling on two wheels.

275 This subclass is indented under subclass 274. Frames which are constructed to yield usually for the purpose of absorbing shocks.

SEE OR SEARCH THIS CLASS, SUBCLASS:

283, for other yielding frames.

276 This subclass is indented under subclass 275. Frames in which the front fork or the head in which it swivels is constructed to yield to road shocks.

SEE OR SEARCH THIS CLASS, SUBCLASS:

279+, for other front forks and heads.

277 This subclass is indented under subclass 276. Front forks in which the front wheel moves independently of the fork.

SEE OR SEARCH THIS CLASS, SUBCLASS:

285, for similar constructions for the rear fork.

286, for this subject matter where no features are claimed limiting the device to a front wheel mounting.

278 This subclass is indented under subclass 274. Frames in which the frame is adjustable, foldable or knockdown usually for the purpose of shipping or storage.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34+, 87.05, and 287, for other collapsible or knockdown vehicles.

279 This subclass is indented under subclass 274. Frames in which the invention resides in the front steering fork or the frame head in which it swivels.

280 This subclass is indented under subclass 279. Devices comprising the crown of the fork.

281.1 Frames and running gear:
This subclass is indented under subclass 200. Vehicles comprising the frame or running gear of velocipedes.

(1) Note. In accordance with the (2) Note of subclass 200, motorcycle frames and running gear, without features causing classification in Class 180, Motor Vehicles, are included in this subclass and the subclasses indented hereunder.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.5+, for a land vehicle including suspension modification enacted as a result of a force encountered during surface traversing motion.
80.1+, for vehicle running gear of other types.
274+, where steering features are claimed. The mere naming of a steering head will not operate to keep the patent out of this subclass.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 218+ for self-propelled land vehicles normally traveling on two wheels.
384, Bearings, subclass 431 for bearing mountings, or supports for pedal type crank.

282 This subclass is indented under subclass 281.1. Frames which are designed for more than two wheels.

283 This subclass is indented under subclass 281.1. Frames in which the frame is designed to yield usually for the purpose of absorbing shocks.

SEE OR SEARCH THIS CLASS, SUBCLASS:
87.03, for yieldable coaster frames.
275+, for yielding frames and gear for one wheel controlled vehicles.

284 This subclass is indented under subclass 283. Frames in which the rear forks are yieldable.

285 This subclass is indented under subclass 284. Frames in which the rear wheel is mounted to move independently of the fork.

SEE OR SEARCH THIS CLASS, SUBCLASS:
277, for similar arrangement for front forks.
286, for this arrangement where no features are claimed limiting the device to the rear wheel mounting.

286 This subclass is indented under subclass 283. Frames in which the wheel is mounted to move independently of the fork where the invention is not limited to either the front or rear wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
277, and 285, for front and rear wheel mountings of this type.

287 This subclass is indented under subclass 281.1. Frames constructed to be extended or readily taken apart or folded.

SEE OR SEARCH THIS CLASS, SUBCLASS:
34+, 87.05, and 278, for other adjustable vehicles.

288 This subclass is indented under subclass 281.1. Devices comprising the rear fork, per se.

SEE OR SEARCH CLASS:

474, Endless Belt Power Transmission Systems or Components, subclass 116 for means to adjust tension in a bicycle drive chain by moving the rear sprocket.

288.1 Low profile:

This subclass is indented under subclass 281.1. Vehicles in which the frame and running gear are configured and arranged to accept a recumbent or semirecumbent occupant, producing a vehicle with a low center of gravity and reduced wind drag.

288.2 Combined with body:

This subclass is indented under subclass 281.1. Vehicles in which the frame is combined with a structure intended to at least partially surround the occupant.

288.3 Hollow shell frames:

This subclass is indented under subclass 281.1. Vehicles in which load bearing structure is formed from hollow panels, typically comprised of joined hollow shell halves rather than a tubular skeletal truss structure.

288.4 Attachments and accessories:

This subclass is indented under subclass 200. Vehicles including attachments for velocipedes and accessories limited to use by the occupant and not otherwise classifiable.

(1) Note. The art indented hereunder is directed to a combination of the bicycle with some other subcombination. Where the class for the subcombination provides subclasses for the subcombinations use in combination, the proper classification is in that other subcombination class. For instance, the class for locks provides for locks in special applications including bicycles which have provisions to accommodate the lock. See the Search Class notes below. Similarly, another class takes article carriers even where the vehicle structure is changed by the inclusion of bolt holes, angle brackets, etc. Where the organization of a bicycle as a whole is changed to provide a carrier, proper classification is proper in this class but in a different subclass. Handle bar attachments in the form of receivers and other types of handle bar attachments are placed elsewhere. Windshield and front fairings are placed in another class. See the search notes below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

152.1, 158.1 and 160.1, for mud guards, wheel scrapers, and wheel guards respectively, for other vehicles.

202, for where the organization of a bicycle as a whole is changed to provide a carrier.

SEE OR SEARCH CLASS:

70, Locks, subclass 233 and 236 for locks for bicycles. Class 70 provides for locks in special applications including bicycles which have provisions to accommodate the lock. Furthermore, Class 70 provides for locks which act on steering handles and which lock a cycle's usual driving mechanism.

74, Machine Element or Mechanism, subclasses 55.1+ for handle bars; 551.8 for attachments to handle bars and 594.1+ for cranks and pedals.

135, Tent, Canopy, Umbrella, or Cane, subclasses 87+ for canopies.

224, Package and Article Carriers, subclasses 412+ for article carriers for bicycles; also see this class for handle bar attachments in the form of receivers..

296, Land Vehicles: Bodies and Tops, subclasses 78+ for cowls and wind shields.

297, Chairs and Seats, subclasses 195.1+ for a saddle seat, per se, or with only enough vehicle structure as is necessary to support the saddle seat.

474, Endless Belt Power Transmission Systems or Components, subclass 92 for a belt or chain cleaner mounted on a velocipede.

290 This subclass is indented under subclass 288.4. Devices comprising body harness for velocipede occupants.

SEE OR SEARCH CLASS:

119, Animal Husbandry, subclass 770 for tethering a human being and subclass 771 for a tether attached to a vehicle; see search notes of these subclasses for further field of search.

291 This subclass is indented under subclass 288.4. Devices comprising steps and foot rests for velocipedes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163+, for other vehicle steps and see the search notes thereto.

292 This subclass is indented under subclass 288.4. Attachments for towing a velocipede behind either another velocipede or some other vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

400+, for vehicle trains and articulated vehicles.

293 This subclass is indented under subclass 288.4. Devices for propping up a velocipede when not in use or for steadying the vehicle against overturning when in motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

203, for side-car carriers.

SEE OR SEARCH CLASS:

211, Supports: Racks, subclass 5 and 17-22 for velocipede racks and stands.

294 This subclass is indented under subclass 293. Props mounted upon or attachable to the pedals or pedal cranks.

295 This subclass is indented under subclass 293. Props combined with other devices or convertible to other parts or attachments of velocipedes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

294, for pedals convertible to props.

296 This subclass is indented under subclass 295. Combinations of prop or steadying device and means for engaging a wheel of the vehicle or the propulsion means to prevent rolling of the vehicle. The engaging means is usually a brake.

297 This subclass is indented under subclass 295. Combinations of prop or steadying device significantly claimed with locking means to secure the prop against movement by unauthorized persons.

(1) Note. This subclass does not include props or steadying devices combined with mere latches.

SEE OR SEARCH CLASS:

70, Locks, subclass 235 for props or steadying devices of conventional construction combined with specific locking devices.

298 This subclass is indented under subclass 293. Props which are both pivotally mounted on the vehicle and extensible therefrom.

299 This subclass is indented under subclass 298. Devices wherein the prop or steadying device is substantially in the form of a U-frame.

300 This subclass is indented under subclass 298. Props having more than one supporting leg.

SEE OR SEARCH THIS CLASS, SUBCLASS:

299, for devices wherein the U-frame may have two ground engaging parts resembling two legs.

SEE OR SEARCH CLASS:

248, Supports, subclasses 163.1+ for plural leg stands of general application.

301 This subclass is indented under subclass 293. Devices wherein the prop or steadying device is pivotally mounted on the vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

298+, for pivoted and extensible props.

302 This subclass is indented under subclass 301. Props which are substantially in the form of a U-frame. The frame may be pivoted at the base of the U so that the legs may engage the ground, or may be pivoted at the legs so that the base may be ground-engaging. The latter type are usually wheel-straddling.

SEE OR SEARCH THIS CLASS, SUBCLASS:
299, for pivoted U-frames, which are extensible.

303 This subclass is indented under subclass 301. Props having more than one supporting leg.

SEE OR SEARCH THIS CLASS, SUBCLASS:
300, for pivoted plural leg props.

SEE OR SEARCH CLASS:
248, Supports, subclasses 163.1+ for plural leg stands of general application.

304 This subclass is indented under subclass 293. Props extensibly or slidably mounted on the velocipede.

SEE OR SEARCH THIS CLASS, SUBCLASS:
298+, for props which are pivoted and extensible.

304.1 Wheelchair:
This subclass is indented under subclass 288.4. Vehicles in which the attachment is on a vehicle intended to be propelled by the hands of a seated occupant.

SEE OR SEARCH CLASS:
224, Package and Article Carriers, subclass 407 for a package or article carrier attached to a wheelchair, where the organization of the wheelchair is not changed.

304.2 Wheel driven:
This subclass is indented under subclass 288.4. Vehicles in which the attachment utilizes energy provided by the moving wheel.

SEE OR SEARCH CLASS:
310, Electrical Generator or Motor Structure, subclass 75 for wheel driven generators.

304.3 Guards and reinforcements:
This subclass is indented under subclass 288.4. Vehicles where the attachment protects either the vehicle or the occupant.

(1) Note. In some cases the guard is in the form of a reinforcement. Also included are devices to prevent the intrusion of clothing or body parts into undesired areas.

SEE OR SEARCH CLASS:
474, Endless Belt Power Transmission Systems or Components, subclass 146 for chain guards not claiming particular bicycle structure.

304.4 Occupant engaging:
This subclass is indented under subclass 304.3. Vehicles where the guard is intended to contact the occupant only when a collision or unsafe condition makes the occupant's body move.

SEE OR SEARCH THIS CLASS, SUBCLASS:
290, for restraining devices in the form of harnesses which continually engage the occupant's body.

304.5 Handling and carrying attachments:
This subclass is indented under subclass 288.4. Vehicles having devices intended to facilitate grasping or moving the bicycle manually taking the form of shoulder posts, grasping handholds, etc.

SEE OR SEARCH CLASS:
16, Miscellaneous Hardware, subclasses 442+ for handles of general utility.

400 This subclass is indented under subclass 29. Devices comprising either (1) a vehicle having a pivot, hinge or flexible section between body parts which are separately connected to flexibly joined or separate ground-engaging running gear units, or (2) a plurality of separate vehicles connected together in such manner as to permit relative motion between the vehicles

and to permit a single source of draft (push or pull) to propel the vehicles as a unit.

(1) Note. Where the articulated vehicle is solely disclosed for use in an earth working or harvesting environment, the proper classification is in Class 172. No specific recitation in the claims of an earth working implement or harvester is necessary to cause an assignment in Class 172. Thus, where the articulative feature is disclosed solely in the performance of an earth working or harvesting operation, the body of art is not collected in Class 280.

(2) Note. This and indented subclasses take patents for devices wherein one of the units is an art device such as a dumping vehicle, such device being claimed by name only. Providing for the particular art devices is analogous to the line set forth in (1) Note above regarding the agricultural implement classes.

SEE OR SEARCH CLASS:

56, Harvester, subclasses 6+ for ganged trailing harvesters.

172, Earth Working, subclasses 677+ and the subclasses there noted, for earth working apparatus with details of draft connection.

180, Motor Vehicles, subclasses 14.1+ for motor vehicle trains.

213, Railway Draft Appliances, for draft appliances between vehicles which travel on tracks.

244, Aeronautics, subclass 3 for trains of aircraft.

267, Spring Devices, subclass 115 for a fluid spring device useful in draft gear; and subclass 138 for a spring device, other than of the fluid spring type, for the same use.

403, Joints and Connections, subclasses 52+ for articulated members in general.

414, Material or Article Handling, subclass 481 and 485 for a self-loading or unloading vehicle provided with a load receiving portion which is pivotable relative to the horizontal, and wherein the vehicle is of the trailer type.

401 This subclass is indented under subclass 400. Devices in which the connection between the articulated section is designed to cause and/or permit one section of the vehicle to be moved from a trailing position to a completely supported position on another section of the vehicle.

(1) Note. Vehicles classified here may or may not include mechanism for positively moving the sections to collapsed position.

(2) Note. Articulated vehicles in which the coupling between the sections permits one section to be detached from another so that one section may be superposed upon the other for transportation, are classified in other subclasses of this group.

SEE OR SEARCH THIS CLASS, SUBCLASS:

402, for means to transport a vehicle by suspending one end thereof on a draft vehicle.

402 This subclass is indented under subclass 400. Devices in which the leading vehicle or draft means between the vehicles is provided with means to receive the axle, wheels or the like of a vehicle to be transported, the leading end of the transported vehicle being suspended so that the forward running gear does not contact the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:

418, for normal four wheel vehicles convertible to two wheel trailers being intended to carry loads as trailers and not merely to be transported.

SEE OR SEARCH CLASS:

414, Material or Article Handling, subclass 563 for towing apparatus adapted to engage one end of a vehicle and elevate it into towing position.

403 This subclass is indented under subclass 400. Devices in which the articulated vehicles or vehicle sections are provided with an enclosed access opening or sealed passageway of sub-

stantial size therebetween to permit passage of humans from one to the other.

SEE OR SEARCH THIS CLASS, SUBCLASS:
424, for passenger carrying semitrailers.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, subclasses 8.1+ for a railway vehicle, generally, with vestibule structure.

404 This subclass is indented under subclass 400. Devices wherein a plurality of articulated vehicles are each provided with load supporting means (usually in the form of bolsters) to receive a common relatively long load such as poles or lumber.

(1) Note. The vehicles are frequently connected by means other than the load.

405.1 Load distribution adjustment:
This subclass is indented under subclass 400. Vehicles in which (a) the trailing vehicle is unbalanced, the leading vehicle sustaining a vertical load as a result thereof, and wherein means are provided for selectively adjusting the proportion of the trailer load sustained by the leading vehicle and trailer running gear or for adjusting the point of load application longitudinally of the leading vehicle, or (b) the connection between the vehicles is such that the leading vehicle sustains a draft load having a vertical component and selectively adjustable means are provided to vary the longitudinal location of the point of application of the vertical component of the draft load.

(1) Note. This subclass includes devices wherein a dolly or wheels are provided between the leading and trailing vehicle and means are provided to adjust the proportion of the trailer weight sustained by the dolly and leading vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
86.5, for a general utility wheeled land vehicle including an auxiliary axle assembly.
476.1, for a mere dolly acting as a wheeled draft connection.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 24.02 for a vehicle of that class (Class 180) having five or more wheels and provided with movable running gear for shifting or proportioning load; or subclass 209 for a vehicle having a special wheel base as defined in Class 180, subclass 21, which further includes means for changing the number or position of supporting wheels.

406.1 Plural connections:
This subclass is indented under subclass 405.1. Vehicles in which there is provided a plurality of separate connections between the vehicles at least one of which is adjustable for the purpose of adjusting the load distribution.

406.2 House trailer hitch type:
This subclass is indented under subclass 406.1. Devices wherein one of the connections includes an “A” - frame drawbar typically used for connection to a vehicle which provides a living space for occupants when not being towed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
483+, for resilient connections having no adjustment to vary the load distribution.

407 This subclass is indented under subclass 405.1. Devices in which the load distribution adjustment is accomplished by adjusting the point of application of draft to the leading or propelling vehicle.

(1) Note. The leading or propelling vehicle includes any part of the draft mechanism which is rigid therewith when in running relationship with other vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
446.1, for devices wherein the virtual hitch point is shifted in response to turning movement of the leading vehicle.

SEE OR SEARCH CLASS:
172, Earth Working, subclasses 315+, 318+, 321, 326+, 439+, and 452+ for

earth working implements connected to a tractor by vertically shiftable means which act to change the load distribution between the tractor and implement.

407.1 Semitrailer type:
This subclass is indented under subclass 405.1. Vehicles in which the trailing vehicle has wheels at the rear end only, the front end being supported on the leading vehicle at or ahead of the wheels and axles thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
476.1, for wheeled dollies having no load adjustment mechanism.

408 This subclass is indented under subclass 400. Devices in which a single vehicle is provided with means at both the leading and trailing ends thereof for attaching the same to another vehicle.

(1) Note. Most of the patents in this and indented subclasses are directed to a train of vehicles or a single vehicle intended for use in train with other vehicles.

(2) Note. Included in this and indented subclasses are vehicles having a coupling at both ends thereof merely for the purpose of allowing them to be drawn from either end.

SEE OR SEARCH CLASS:
105, Railway Rolling Stock, for vehicle trains adapted to travel on tracks.

409 This subclass is indented under subclass 408. Devices in which the draft means at the front and rear of the vehicle are so located or the draft means between the adjacent vehicles of a train of vehicles are so disposed that when operated in train the longitudinal center lines of the vehicles will be horizontally spaced from one another under at least one condition of straight line motion.

SEE OR SEARCH THIS CLASS, SUBCLASS:
456.1+, for a pair of articulated vehicles which are laterally offset from one another, the offset being adjustable.
472+, for a pair of articulated vehicles which are laterally offset from one another.

SEE OR SEARCH CLASS:
56, Harvesters, subclasses 6+ for gang type harvesters.

410 This subclass is indented under subclass 408. Devices in which there is provided a direct draft transmitting connection between the front and rear draft means on the vehicle such that when the vehicle is being operated in train no draft load from the succeeding vehicle is transmitted to the frame or running gear thereof.

411.1 Multiple trailing vehicles:
This subclass is indented under subclass 400. Vehicles in which there is provided a leading or propelling vehicle and a plurality of trailing or propelled vehicles drawn by the propelling vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
408+, for a plurality of articulated vehicles coupled one behind the other, each having draft means at both the front and rear.
476.1, for a wheeled draft connection which serves only to connect a leading and trailing vehicle.

SEE OR SEARCH CLASS:
56, Harvesters, subclasses 6+ for gang type harvesters, and subclasses 473.5 and 474+ for carriers associated with harvesters.
172, Earth Working, subclasses 310+ for plural wheeled earth working implements and subclasses 624+ for a plurality of earth working implements connected to a forward transverse draft bar.

412 This subclass is indented under subclass 411.1. Devices in which the relative position of at least one of the vehicles with respect to the others may be selectively changed.

413 This subclass is indented under subclass 412. Devices in which there are at least two trailing vehicles which travel substantially side by side and adjustable means are provided to selectively vary the relative positions of these vehicles longitudinally.

414.1 Boat carrying type:
This subclass is indented under subclass 400. Devices in which the articulated vehicles are constructed to accommodate a boat for transporting the same.

(1) Note. Cross-references of all boat-carrying trailers are being collected here.

SEE OR SEARCH THIS CLASS, SUBCLASS:
43.11, for a vehicle having a vertically adjustable wheel, the axis of which may be removed to a position above the load carrying surface of the vehicle.
47.131+, for tiltable vehicles stabilized by being attached to an article, in some instances a boat, especially subclass 47.331 for such vehicles having floats thereon.
638+, for extensible vehicles.

SEE OR SEARCH CLASS:
114, Ships, subclass 344 for boats having attached running gear or wheels adapting the boat to be pulled over land, the wheels remaining attached to the boat when used in the water.
414, Material or Article Handling, appropriate subclasses for a vehicle which is adapted to receive, transport, and relinquish a boat.
440, Marine Propulsion, subclasses 12.5+ for a self-propelled vehicle having land and water propulsion means (e.g., amphibious vehicle).

414.2 Temporarily attached wheel assembly:
This subclass is indented under subclass 414.1. Devices wherein the boat carrying type of vehicle is made up of wheeled assemblies comprising no more than wheels, and axle, and means to fasten the assembly to the boat.

SEE OR SEARCH CLASS:
114, Ships, subclass 344 for boats having attached running gear or wheels adapting the boat to be pulled over land, the wheels remaining attached to the boat when used in the water.

414.3 Boat suspending means:
This subclass is indented under subclass 414.1. Device wherein the boat is supported from flexible members attached to a frame which is above the boat.

414.5 This subclass is indented under subclass 400. Devices comprising a leading propelling vehicle and a trailing vehicle having at least one ground wheel, the wheel being vertically adjustable with respect to the trailing vehicle frame (i.e., running gear) by means of an actuator.

(1) Note. The actuator may comprise a servomotor or an attendant manipulated lever, gear or the like which provides mechanical advantage.

(2) Note. The patents in this subclass may also involve a concurrent vertical adjustment of the draft member with respect to the vehicle frame.

(3) Note. This definition does not include apparatus in which the frame or running gear is rocked about the wheel axis, without any other relative vertical movement of the axis with respect to the vehicle frame. For such subject matter for manipulating an earth working apparatus see the search notes below.

(4) Note. This definition is not intended to include a retractable landing gear for a semitrailer. The definition also does not include a draft connection between articulated vehicles with a retractable ground support. The definition also does not include a wheeled draft connection. See the search notes below for such devices.

SEE OR SEARCH THIS CLASS, SUBCLASS:
43+, for a vehicle having a vertically adjustable wheel.

43.17+, for vehicles having wheel means and a running gear and actuating means to move the wheel means relative to the running gear.
414, for boat trailers with vertically adjustable wheels.
423.1+, for a retractable landing gear for a semitrailer.
475, for a draft connection between articulated vehicles with a retractable ground support.
476.1, for a wheeled draft connection.

SEE OR SEARCH CLASS:
172, Earth Working, subclasses 318+ for an actuator on a tractor for moving a wheel on an implement vertically with respect to the implement; subclasses 323+ for subject matter for manipulating an earth working apparatus' subclasses 326+ for actuating means on a trailing wheeled implement for moving the draft means vertically and especially subclass 328 for said means interconnected with means to move a wheel vertically. Also see (2) Note above and subclasses 395+ for earth working apparatus having a wheel vertically adjustable with respect to a frame.

415.1 Convertible:
This subclass is indented under subclass 400. Vehicles so designed that the character of the device or its mode of operation can be changed by reassembling all or some of its parts in a different relationship to each other or by the addition or omission of a part.

SEE OR SEARCH THIS CLASS, SUBCLASS:
474, for selectively rigid or flexible couplings.

SEE OR SEARCH CLASS:
56, Harvesters, appropriate subclasses for conversions enabling transport of harvesting apparatus.
172, Earth Working, appropriate subclasses for implement carriers which are converted for movement on roads.

416 This subclass is indented under subclass 415.1. Devices in which a vehicle is provided with draft means which is convertible so that the vehicle may be drawn by either animals or another vehicle.

SEE OR SEARCH CLASS:
278, Land Vehicles: Animal Draft Appliances, for animal draft appliances, per se.

416.1 Convertible or interchangeable from one type coupling to another:
This subclass is indented under subclass 415.1. Vehicles where the articulated connection may be changed to a different type of connection by the replacement, rearrangement or modification of the coupling members.

SEE OR SEARCH THIS CLASS, SUBCLASS:
476.1, for wheeled dollies converting a semi to a full trailer or modifying the connection.
500+, for specific hitches, per se.

416.2 From three point hitch:
This subclass is indented under subclass 416.1. Vehicles which include a frame or other device attachable to a tractor three point hitch and carrying another type of draft means (e.g., a one or two point hitch).

(1) Note. Devices in this class enable a tractor, having a three point hitch used to pull an earth engaging implement, to be modified for pulling a wheeled device which is not an earth working implement. Where the adaptation is made from a three point hitch to another type draft yet still intended to pull an earth working implement, as disclosed, the proper classification is in Class 172.

SEE OR SEARCH CLASS:
172, Earth Working, subclass 248 for convertible earth working hitches.

416.3 Male and female coupling member:
This subclass is indented under subclass 415.1. Vehicles in which a vehicle alternatively presents either a male or female coupling element for connection with another vehicle having a

coupling member of either the female or male type.

417.1 To or from gooseneck:
This subclass is indented under subclass 416.1. Vehicles where one mode of the conversion provides an articulated hitch including an inverted U or L shaped member between the leading and trailing vehicle, the U or L shape providing clearance for existing leading vehicle structure, such as the tailgate, rear deck or trunk, or enabling a difference in elevation between the tractor and trailer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
425.2, for shiftable but nonconvertible goosenecks.

418 This subclass is indented under subclass 415.1. Devices in which at least one of the vehicles is convertible from a four- wheel to a two-wheel vehicle.

(1) Note. This subclass includes vehicles which are intended for use as four wheel vehicles only when used independently, but are converted to two wheel vehicles when connected with other vehicles.

SEE OR SEARCH THIS CLASS, SUBCLASS:
402, for normally four wheeled vehicles which have the forward wheels lifted from the ground for transport purposes.

418.1 Semitrailer-type vehicle:
This subclass is indented under subclass 415.1. Vehicles where the conversion involves unbalanced trailing vehicles having running gear at the rear thereof.

(1) Note. This subclass includes semitrailers adapted to be nonpivotally attached to the rear end of another trailer.

(2) Note. This subclass does not include mere convertible bodies or convertible hitches. The conversion must affect the mode of articulation. Conversions of nonarticulated vehicles to semitrailers by the addition of an articulated front connection and or rear wheels is included in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:
416.1, for fifth wheels convertible to other type hitches.
453, for fifth wheels.
476.1, for semitrailers interconnected for articulation utilizing a wheeled dolly.

419 This subclass is indented under subclass 400. Devices in which each of the articulated vehicles has wheels thereon which are adapted to be turned with respect to the vehicles for steering purposes and wherein a connection is provided between the steerable wheels of the vehicles such that when the wheels of one vehicle are turned the wheels of the other vehicle are also turned.

SEE OR SEARCH THIS CLASS, SUBCLASS:
426, and 442+, for articulated vehicles in which the wheels of a trailing unit are steered in response to articulative movement between the vehicles.

SEE OR SEARCH CLASS:
172, Earth Working, subclass 280 for an earth working implement wheel steered by an interconnecting means between it and the steering wheel of a motor vehicle.

420 This subclass is indented under subclass 400. Devices in which a connection other than the draft connection is provided between the vehicles to transmit power from one vehicle to the other for miscellaneous purposes such as braking or lighting.

(1) Note. Connections between the vehicles which form a necessary part of the articulative relationship therebetween, as for example, steering or tracking connections are not included in this or indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
419, for steering connections between the wheel of a leading and trailing vehicle.

442+, for auxiliary connections between a leading and trailing vehicle for steering the trailer wheels.

456.1+, for plural connections between a leading and trailing vehicle.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 315+ for an earth working apparatus comprising a trailing implement with an actuator controlled from a tractor.

180, Motor Vehicles, subclasses 14.1+ for power transmission means between the sections of a motor vehicle train.

421 This subclass is indented under subclass 420. Devices in which the service connection between the vehicles comprises means to conduct fluid from one vehicle to the other vehicle.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 351+ for a valved fluid flow line supported from an automobile.

213, Railway Draft Appliances, subclass 76 for the combination of a railway draft coupling and a train pipe coupling.

285, Pipe Joints or Couplings, subclasses 24+ for the combination of a coupling, a guide and support means, and subclasses 61+ for a coupling combined with a support, especially subclass 62 wherein the support comprises vehicle means.

422 This subclass is indented under subclass 420. Devices in which the service connection between the vehicles comprises means to transmit electrical power from one vehicle to the other vehicle.

SEE OR SEARCH CLASS:

191, Electricity: Transmission to Vehicles, subclass 11 for transmission of current from a single source to a plurality of vehicles in series.

213, Railway Draft Appliances, subclasses 1.3+ for the combination of a railway draft coupling and electrical connecting means.

439, Electrical Connectors, especially subclasses 34+ for an electrical connector combined with a “named” vehicle.

423.1 Semitrailer:

This subclass is indented under subclass 400. Vehicles in which there is provided a tractor capable of independent use and an unbalanced trailing vehicle having running gear at the rear end thereof, the forward end of the trailer being supported on the back of the tractor at or forward of the rear axle of the tractor by an articulated connection or fifth wheel which connection transmits all of the draft.

SEE OR SEARCH THIS CLASS, SUBCLASS:

476.1, for wheeled dollies between the tractor and trailer.

763.1, for semitrailer landing gear.

SEE OR SEARCH CLASS:

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 418+ for semitrailers having retractable ground supports or jacks which are extended by power or force increasing mechanism to raise and support the forward end of the semitrailer when detached from the tractor and wherein no other significant vehicle structure is claimed. The inclusion of coupling or brake means, for example, is considered to be significant vehicle structure.

424 This subclass is indented under subclass 423.1. Devices having means to accommodate passengers, at least some of whom are carried in the trailing vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

403, for articulated vehicles having an enclosed passage for passengers between the vehicle sections.

425.1 Coupling and uncoupling with facilitating lift means:

This subclass is indented under subclass 423.1. Vehicles in which there is provided power or manually actuated lift means on the tractor or reacting between the tractor and trailer to vertically position the connecting members (a) for coupling, or (b) to raise the trailer after coupling.

(1) Note. Devices wherein the trailer is raised or lowered by relative movement between the vehicles and direct contact with a camming surface on the tractor are not included in this subclass. This subclass does include devices wherein the tractor fifth wheel member is elevated or lowered by cams on the tractor, the power being provided by movement of the tractor.

(2) Note. Also included are tractors commonly referred to as "terminal tractors" having fifth wheels which are raised after coupling to enable trailer movement without retracting the landing gear.

SEE OR SEARCH THIS CLASS, SUBCLASS:

477+, for coupling facilitating devices for articulated vehicles other than the semitrailer type and see the search notes thereto.

SEE OR SEARCH CLASS:

298, Land Vehicles: Dumping, subclass 22 for dumping bodies raised by the fifth wheel.

414, Material or Article Handling, subclass 482 for a coupling lift to lower the rear end of the trailer to facilitate loading.

425.2 With additional detachable or shiftable gooseneck:

This subclass is indented under subclass 425.1. Vehicles in which, in addition to the coupling facilitation, the articulated connection is at the forward end of an inverted L or U shaped member attached to the leading end of a trailer and the coupling facilitating lift is between the tractor and the gooseneck.

(1) Note. Coupling facilitation between the trailer and the gooseneck is not proper for this subclass.

(2) Note. The L or U shaped member may be disconnected or shifted relative to the trailer principally for lowering the trailer bed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

441.2, for a shiftable gooseneck having no coupling facilitation between the tractor, and where coupling between the trailer and the gooseneck is facilitated.

426 This subclass is indented under subclass 423.1. Devices in which the trailer has wheels which are mounted to turn with respect to the body or frame for steering movements, such steering movements being controlled by the change in angular relationship between the tractor and trailer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

442+, for articulative vehicles of other than the semitrailer type wherein the trailer wheels are steered by a change in angular relationship between the vehicles, and see the search notes thereto.

427 This subclass is indented under subclass 423.1. Devices which are provided with two or more of the following: (1) retractable landing gear to support the trailer when in uncoupled condition, (2) brakes to retard or prevent movement of the trailer, and (3) coupling mechanisms to detachably connect the trailer and tractor, the operation of at least two of these mechanisms being interdependent; i.e., the operation of one of the mechanisms actuates the other mechanism(s), or operation of one of the mechanisms is a condition precedent to the operation of the other(s).

428 This subclass is indented under subclass 427. Devices including interdependent operation of the trailer brakes and coupling mechanism.

429 This subclass is indented under subclass 427. Devices in which the trailer landing gear is retracted or extended by the action of coupling or uncoupling the tractor and trailer.

SEE OR SEARCH THIS CLASS, SUBCLASS:

431, for an interlock between the coupling and landing gear which prevents uncoupling of the vehicles with the landing gear retracted or prevents

retraction of the landing gear until the vehicles are coupled.

430 This subclass is indented under subclass 429. Devices in which the trailer coupling member, i.e., the member which cooperates with a complementary member on the tractor to establish draft connection between the vehicles, is mounted to move rectilinearly along the central axis of the trailer during coupling action and such movement results in actuation of the landing gear.

431 This subclass is indented under subclass 427. Devices in which the coupling means between the vehicles is provided with a latch or lock, the latch and landing gear being so related that the vehicles cannot be uncoupled unless the landing gear is extended and/or the landing gear cannot be retracted before the vehicles are coupled together.

SEE OR SEARCH THIS CLASS, SUBCLASS:

429+, for trailer landing gear which is extended and/or retracted by the action of coupling and uncoupling the vehicles.

432 This subclass is indented under subclass 423.1. Devices in which there is provided means to prevent excessive horizontal angular swing or overriding of the trailer with respect to the tractor or means to prevent separation of the tractor and trailer in the event that the coupling means should fail.

SEE OR SEARCH THIS CLASS, SUBCLASS:

457, for auxiliary safety connections which act to prevent separation of the vehicles in case of failure of the primary connection and wherein the vehicles are not of the semitrailer type.

SEE OR SEARCH CLASS:

188, Brakes, subclass 112 and 142 for trains of vehicles in which the brakes of the rear vehicle are applied by the tendency of the rear vehicle to override the leading vehicle.

433 This subclass is indented under subclass 423.1. Devices directed to the means by which the tractor and semitrailer are releasably and articulatively connected and including no more of the vehicle structure than is necessary to mount the connecting means.

(1) Note. The nominal inclusion of the running gear of the vehicles does not exclude a patent from this or indented subclasses.

434 This subclass is indented under subclass 433. Devices in which the connecting means carried by the two vehicles assume a coupled or connected relationship as a result of movement of one vehicle toward the other in a horizontal plane, requiring no manual manipulation at the time of making the connection.

SEE OR SEARCH THIS CLASS, SUBCLASS:

508+, for self-coupling connections between articulated vehicles other than the semitrailer type.

435 This subclass is indented under subclass 434. Devices in which the connecting means on one of the vehicles includes a pair of jaw or hook members which are pivoted about axes transverse to the line of draft and which coact with a complementary coupling part on the other vehicle to connect the vehicles together.

436 This subclass is indented under subclass 435. Devices in which the pivotal axes for the pivoted jaws are so located that the draft applied to the jaws by the complementary coupling member biases the jaws to a closed position.

437 This subclass is indented under subclass 434. Devices in which one of the vehicles is provided with a member which pivots about a horizontal axis which is transverse to the line of draft and coacts with a complementary coupling part on the other vehicle to effect connection of the vehicles.

438.1 Movably mounted:
This subclass is indented under subclass 433. Vehicles in which at least one of the fifth wheel or coupling members is mounted on its vehicle in such manner as to allow articulative move-

ment between the vehicles when in coupled or connected relationship in addition to the articulative movement permitted by the detachable connection between the vehicles.

(1) Note. One example of such an additional articulation axis is the transverse pivot axis for a fifth wheel plate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

407.1+, for adjustment of the coupling to distribute the load between leading and trailing vehicles.

446.1+, where the position of a connection is automatically changed in response to load or draft connections.

492+, for other connections having plural articulation axes.

439 This subclass is indented under subclass 438.1. Devices in which the movement of at least one of the fifth wheel or coupling members with respect to the vehicle on which it is mounted is resisted by resilient means which provides a restoring force tending to restore the member to a given position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

483+, for resilient connections between articulated vehicles of other types.

SEE OR SEARCH CLASS:

267, Spring Devices, for spring devices, per se.

440 This subclass is indented under subclass 439. Devices in which the resilient means consists at least in part of rubber or analogous material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

485, for resilient means of the rubber block type between vehicles of other than the semitrailer types which resists articulation in a plurality of directions.

441 This subclass is indented under subclass 439. Devices in which at least one of the fifth wheel or coupling elements is mounted so as to be movably longitudinally of the vehicle to which it is connected and such movement is resisted by springs.

SEE OR SEARCH THIS CLASS, SUBCLASS:

486+, for resilient connections between vehicles of other than the semitrailer type which resist relative movements between the vehicles in the line of draft.

441.1 Turntable-type fifth wheel coupling:
This subclass is indented under subclass 438.1. Vehicles in which the tractor carried fifth wheel elements are mounted on a platform which rotates about a vertical axis. The articulation between the tractor and trailer during steering takes place about the turntable axis rather than about the kingpin.

441.2 Detachable or shiftable gooseneck type:
This subclass is indented under subclass 423.1. Vehicles in which the trailer includes an inverted L or U shaped member the forward end of which carries an articulated connection at a higher elevation than the load body and in which the L or U shaped member may be disconnected, raised, or lowered from the trailer principally to enable the trailer to come closer to the ground for loading.

SEE OR SEARCH THIS CLASS, SUBCLASS:

425.2, for additional lifting means which guide and lift the gooseneck to attach it to the leading vehicle.

SEE OR SEARCH CLASS:

414, Material or Article Handling, subclass 481 for a self-loading vehicle with a lowerable trailer front end and where a ramp is claimed.

442 This subclass is indented under subclass 400. Devices in which one or more of the vehicles has wheels movably mounted thereon for steering movements and such steering movements are controlled by a change in articulative relationship between the vehicles.

(1) Note. Merely a single swinging axle which is directly connected to the draft connection between the vehicles to be

swung thereby is excluded from this and indented subclasses.

(2) Note. The turning of a single dirigible wheel or closely paired wheels of tricycle running gear is included here.

SEE OR SEARCH THIS CLASS, SUBCLASS:

80.1+, for particular running gear construction for a general utility wheeled land vehicle, particularly subclass 87.2 for an occupant steered outrigged wheel, subclasses 98+ for short turn running gear construction, subclasses 124.1+ for running gear including a suspension arrangement, or subclasses 137.5+ for turnable axles neither claiming or solely disclosing a handle nor claiming articulated vehicles.

419, for articulated vehicles each vehicle having wheels mounted for steering movement and steering of the wheels on one vehicle resulting in steering of the wheels of the other vehicle.

426, for articulated vehicles of the semi-trailer type in which the trailer wheels are steered in response to articulative movement of the vehicles.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 282 for a wheel on a trailing earth working implement steered by articulative movement between the implement and a tractor.

443 This subclass is indented under subclass 442. Devices in which each of the wheels which is controlled by articulative movement of the vehicles is mounted on an individual axle which is pivoted at its end to the vehicle.

444 This subclass is indented under subclass 443. Devices in which there is provided a vertical pivotal connection between the vehicle and draft member and the wheels of said vehicle are connected to the draft member and swing on their individual axles in response to horizontal turning of the draft member about the vertical pivot.

SEE OR SEARCH THIS CLASS, SUBCLASS:

103, for vehicles having wheels mounted on stub axles which are turned in response to pivoting of a draft member, articulated vehicles not being claimed.

124.12, for a resilient, shock absorbing vertical pivot axis mounted axle or axle assembly including a draft attachment which is neither claimed or solely disclosed as a handle nor claimed in combination with plural interconnected vehicles.

137.501, for a turnable axle lacking resilient, shock absorbing means including a draft attachment which is neither claimed or solely disclosed as a handle nor claimed in combination with plural interconnected vehicles.

445 This subclass is indented under subclass 444. Devices having means whereby the wheels may be disconnected from the drawbar so that pivoting of the drawbar does not turn the wheels or having means whereby the drawbar or a portion thereof may be held against pivoting to prevent turning of the wheels.

446.1 Condition responsive connections:

This subclass is indented under subclass 400. Vehicles in which there is a connection or draft relationship between the vehicles which is modified in response to a change in draft condition (e.g., increased load or stress reversal) or articulative relationship of the vehicles.

(1) Note. A connection or draft relationship between two vehicles is modified if, for example, the type of articulation is changed (e.g., from pivoted to rigid connection); or the location of the point of draft application (either real or virtual) to either vehicle is changed; or the distance between the vehicles is changed or one vehicle is positively canted with respect to the other as a result of articulative movement of the vehicles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

439+, and 483+, for resilient connections between articulated vehicles.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 7+ for earth working apparatus with an automatically controlled power means which responds to changes in draft force between a trailing implement and a tractor, and subclass 239 for an earth working implement with a draft connection to a tractor, said draft connection comprising a linkage which responds to change in draft force.

447 This subclass is indented under subclass 446.1. Devices in which the point of application of draft from the trailing vehicle to the leading vehicle, or vice versa, is free to move under operating conditions laterally with respect to leading or trailing vehicles, respectively.

SEE OR SEARCH THIS CLASS, SUBCLASS:

467+, for devices wherein the point of application of draft load to a leading or trailing vehicle is selectively adjustable laterally of the vehicle.

448 This subclass is indented under subclass 446.1. Devices in which a reversal of the direction of stress; i.e., tension to compression or vice versa, in the means connecting the vehicles causes a change in the articulation or the manner in which the vehicles are articulated.

(1) Note. The connection between the vehicles may be a rigid connection for one of the conditions of stress.

SEE OR SEARCH THIS CLASS, SUBCLASS:

474, for connections between articulated vehicles which may selectively be made rigid or flexible.

449 This subclass is indented under subclass 446.1. Devices in which the draft connection between the vehicles is automatically disconnected in response to a predetermined excessive stress therein.

(1) Note. The release of the connection between the vehicles upon overload may be only a partial release, allowing an increase in distance between the vehicles.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 261+ for earth working apparatus with parts which shift upon the occurrence of an overload.

180, Motor Vehicles, subclass 14.5 for motor vehicle trains with overload release means between the vehicles.

278, Land Vehicles: Animal Draft Appliances, subclass 22 for automatic horse detachers.

450 This subclass is indented under subclass 449. Devices in which the overload release mechanism includes a notched or shouldered draft bar, the notch seating a resiliently biased detent carried by the member receiving the draft bar, which detent upon overload is forced away from the notch to release the draft bar.

451 This subclass is indented under subclass 449. Devices in which the draft connection includes a member which is destructible upon the occurrence of a predetermined overload.

(1) Note. The destructible element is usually in the form of a break pin.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 271 for earth working apparatus with a frangible means which permits shifting of a part on the occurrence of an overload.

452 This subclass is indented under subclass 449. Devices which include a coupling member having at least one element in the form of a retaining hook or jaw to receive a complementary coupling element and being pivoted about an axis transverse to the direction of draft, the hook or jaw being movable about the pivot in response to overload to release the complementary coupling element.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 265+ for an earth working tool swingable about a fixed axis on the occurrence of an overload.

453 This subclass is indented under subclass 452. Devices in which the hook or jaw and its pivot are movable in a straight line in the direction of draft, such movement resulting in release of the hook for movement about the pivot.

454 This subclass is indented under subclass 452. Devices in which the pivoted hook and coupling member on which the hook is mounted each have a link pivoted thereto, the two links also being pivoted one on the other.

455 This subclass is indented under subclass 452. Devices in which the hook or jaw is held in the coupled or retaining position by a resiliently biased member and under overload condition overcomes the resilient bias and swings clear and free of the member to release the complementary coupling element.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 264+ for an earth working apparatus comprising a tool shifted upon the occurrence of an overload and a spring return device, and subclass 269 for an earth working apparatus comprising a tool shifted upon the occurrence of an overload and a resilient latch.

455.1 Antisway hitch:
This subclass is indented under subclass 446.1. Vehicles wherein the ability of the trailing vehicle to pivot relative to the leading vehicle is retarded by friction or other snubbing devices.

SEE OR SEARCH THIS CLASS, SUBCLASS:

432, for safety devices for semitrailers which prevent jackknifing.

474, for selectively rigid or flexible couplings.

456.1 Plural or laterally adjustable connections:
This subclass is indented under subclass 400. Vehicles wherein there is provided (a) a plurality of distinct connections between a pair of articulated vehicles, or (b) a connection between the vehicles whereby the trailing vehicle or its draft connection, including that part mounted on the leading vehicle, can be selectively secured in or positively shifted to plural positions at least one of which is offset from or at a horizontal angle to the center line of the leading vehicle.

(1) Note. A connection between two vehicles includes a connection directly between the vehicles or between structure rigid with the vehicles (including a rigidly mounted draft bar) and such connection need not be secured to each vehicle, but may merely engage therewith such as in a vertical load bearing relationship.

SEE OR SEARCH THIS CLASS, SUBCLASS:

442+, for plural connections between articulated vehicles wherein one of the connections serves to steer the trailer wheels in response to articulative movement.

472, for nonadjustable, laterally offset vehicles.

457 This subclass is indented under subclass 456.1. Devices wherein there is provided in addition to the primary draft connection between the vehicles an additional connection which transmits the draft in case of failure of the primary draft connection, but serves no function nor transmits any draft when the primary connection is intact.

SEE OR SEARCH THIS CLASS, SUBCLASS:

433, for safety devices used in connection with semitrailer type articulated vehicles. However, safety couplings to prevent separation of a semitrailer upon failure of the primary coupling have been cross-referenced here.

458 This subclass is indented under subclass 456.1. Devices in which the connection between the vehicles comprises a pair of members each of which is connected to both the leading and trailing vehicle, the members crossing one another to give the appearance of an X when viewed in plan.

459 This subclass is indented under subclass 456.1. Devices in which there is provided a draft member pivoted about a vertical axis on both the leading and trailing vehicle and an addi-

tional connection between the vehicles is provided such that pivoting of one of the vehicles with respect to the draft member will enforce a proportional pivoting of the second vehicle with respect to the draft member.

460.1 Laterally spaced parallel connections:
This subclass is indented under subclass 456.1. Vehicles in which a plurality of separate connections is provided between the articulated vehicles, at least two of the connections being substantially parallel and spaced from one another in a horizontal plane.

461.1 Vertically spaced connections:
This subclass is indented under subclass 456.1. Vehicles in which there is provided a plurality of connections between the articulated vehicles, the connections being located at different elevations on each vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
497, for a draft or hitch member which is connected to a leading vehicle at vertically spaced points.

SEE OR SEARCH CLASS:
172, Earth Working, subclasses 439+ for an earth working apparatus having a mast type hitch.

462 This subclass is indented under subclass 456.1. Devices in which the trailing vehicle is provided with a draft tongue or bar which may be selectively adjusted to vary the fixed horizontal angularity between the tongue and trailing vehicle.

(1) Note. Devices wherein the trailing vehicle is provided with a swinging axle and a draft member, the horizontal angularity of which is adjustable relative to the axle, are included in this and indented subclasses.

463 This subclass is indented under subclass 462. Devices in which means are provided which operate to move the draft member from one adjusted position to another.

(1) Note. Devices in which the tongue is moved from one position to another merely by direct manual manipulation thereof, with no mechanical advantage, are not included in this and indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:
468+, for articulated vehicles which are laterally or angularly adjustable and having an actuator to effect the adjustment.

SEE OR SEARCH CLASS:
172, Earth Working, subclasses 324+ for an earth working apparatus comprising a trailing ground supported frame with an actuator for moving the tongue of the trailing means laterally.

464 This subclass is indented under subclass 463. Devices in which the actuator comprises gearing.

(1) Note. For the definition of gearing, see Class 74, Machine Element or Mechanism, subclass 640.

SEE OR SEARCH THIS CLASS, SUBCLASS:
47+, for articulated vehicles which are laterally or angularly adjustable and have gearing to effect the adjustment.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclasses 640+ for gearing, per se.

465 This subclass is indented under subclass 464. Devices in which the gearing comprises a screw and nonrotary nut, rotation of the screw causing a relative longitudinal movement of the screw and nut to effect adjustment of the tongue.

SEE OR SEARCH THIS CLASS, SUBCLASS:
470, for articulated vehicles which are laterally or angularly adjustable by means of a screw and nonrotary nut.

466 This subclass is indented under subclass 464. Devices in which the gearing comprises a sprocket or drum and a flexible chain or belt, cooperating therewith, rotation of the sprocket effecting adjustment of the tongue.

SEE OR SEARCH THIS CLASS, SUBCLASS:

471, for articulated vehicles which are laterally or angularly adjustable by means of a belt and sprocket.

467 This subclass is indented under subclass 456.1. Devices wherein the vehicles are provided with connecting means whereby the trailing vehicle or its draft connection to the leading vehicle (including the draft member mounted on the leading vehicle) may be selectively adjusted or positively shifted to various positions at least one of which is spaced horizontally from or positioned at an angle to the center line of the leading vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

462+, for articulated vehicles in which the trailing vehicle has an angularly adjustable tongue whereby the relative lateral positions of the vehicles may be changed.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 446+ for a laterally adjustable earth working implement coupled to a tractor with a mast type hitch, and subclasses 476+ for a laterally adjustable earth working implement coupled to a tractor and adapted to be lifted for transport on the tractor by an actuator.

468 This subclass is indented under subclass 467. Devices in which means are provided which operate to move or adjust the laterally or angularly adjustable member from one position to another.

(1) Note. Devices in which the adjustable member is moved from one position to another merely by direct manual manipulation thereof without mechanical advantage are not included in this and indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

463+, for articulated vehicles, the trailing vehicle having a tongue which is angularly adjustable by means of an actuator.

469 This subclass is indented under subclass 468. Devices in which the actuator comprises gearing.

(1) Note. For the definition of gearing see Class 74, subclass 640.

SEE OR SEARCH THIS CLASS, SUBCLASS:

464+, for articulated vehicles, the trailing vehicle having a tongue which is angularly adjustable by means of gearing.

470 This subclass is indented under subclass 469. Devices in which the gearing comprises a screw and nonrotary nut, rotation of the screw causing relative longitudinal movement of the screw and nut to effect the lateral or angular adjustment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

465, for articulated vehicles, the trailing vehicle having a tongue which is angularly adjustable by means of a screw and nonrotary nut.

471 This subclass is indented under subclass 469. Devices in which the gearing comprises a sprocket or drum and a flexible chain or belt cooperating therewith, rotation of the sprocket effecting the lateral or angular adjustment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

466, for articulated vehicles, the trailing vehicle having a tongue which is angularly adjustable by means of a belt and sprocket.

472 This subclass is indented under subclass 400. Devices in which there is provided a leading or propelling vehicle and a trailing or propelled vehicle, the longitudinal axes of the vehicles being laterally spaced from one another with respect to the direction of travel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

409, for a train of more than two vehicles, the vehicles being laterally offset with respect to one another.

411.1+, for a leading vehicle and a plurality of trailing vehicles which are not in tandem with one another.

462+, and 467+, for articulated vehicles which may be adjusted to travel in paths laterally offset from one another.

473 This subclass is indented under subclass 472. Devices in which at least one element of the draft connection between the vehicles is attached to the drawing or propelling vehicle at a point forward of the rear axle and extends from the vehicle in front of the rear wheel, the drawn vehicle usually traveling at the side of the propelling vehicle.

474 This subclass is indented under subclass 400. Devices in which the draft connection between the articulated vehicles includes at least one joint which may be adjusted to constitute either a rigid or a movable connection during operation of the vehicles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

445, for articulated vehicles having a draft member which is pivoted to one of the vehicles to steer the wheels thereof upon pivoting and wherein the draft member may be locked against pivoting.

448, for a connection between articulated vehicles where the type of articulation is modified in response to a change of direction of stress in the draft connection.

478.1+, for a draft member which is releasable from a normally fixed position on a vehicle to facilitate connection to another vehicle and then returned to its initial position.

475 This subclass is indented under subclass 400. Devices in which the draft connection between the articulated vehicles is provided with means for engaging the ground to partially support one of the vehicles when uncoupled from the other vehicle, the support means being movable to a retracted or inoperative position when the vehicles are coupled.

SEE OR SEARCH THIS CLASS, SUBCLASS:

150.5, for vehicles, including trailers, having retractable ground support to support same when not in motion or detached from another vehicle, articulated vehicles not being claimed.

427+, for semitrailer landing gear the operation of which is correlated with the coupling action or trailer brakes.

SEE OR SEARCH CLASS:

254, Implements of Apparatus for Applying Pushing or Pulling Force, subclasses 418+ for vehicles having retractable ground support means or jacks which are extended by power or force increasing mechanism and wherein no other significant vehicle structure is claimed. The mere mounting of the jack or support on a vehicle tongue is not sufficient to exclude a patent from Class 254.

476.1 Wheeled draft connection:
This subclass is indented under subclass 400. Vehicles in which the draft connection between the articulated vehicles is provided with a ground engaging wheel or wheels.

SEE OR SEARCH THIS CLASS, SUBCLASS:

475, for a draft connection between articulated vehicles which is provided with retractable ground support means which may include a wheel for performing a supporting function when the vehicles are uncoupled.

767, for other auxiliary wheels for vehicles.

477 This subclass is indented under subclass 400. Devices having means designed to lessen the labor involved in effecting a connection or disconnection between the vehicles.

(1) Note. Coupling parts which merely automatically connect upon contact or relative movement or which may be disconnected merely by operation from a

remote point are not included in this or indented subclasses.

(2) Note. The provision of means in addition to the coupling elements to guide coupling elements into engaging relation upon relative movement of the vehicle is included here.

SEE OR SEARCH THIS CLASS, SUBCLASS:

475, for a draft member provided with retractable means to support the vehicle on the ground when not coupled to another vehicle.

504+, for couplings, per se, especially subclasses 508+ for self-coupling devices. See (1) Note.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 272+ for an earth working implement with means to facilitate mounting of the implement on a motor vehicle.

478.1 Draft element bodily shiftable:

This subclass is indented under subclass 477. Vehicles in which the draft or coupling member on one of the vehicles is releasable from its normal position on the vehicle to permit connection with the cooperating element on the other vehicle and is then returned to the normal position.

(1) Note. The normal position of a draft or coupling member on a vehicle is defined as that position or range of positions that the part assumes or may assume when the vehicle is in running, articulated relationship with another vehicle.

479.1 With motor:

This subclass is indented under subclass 478.1. Vehicles in which a nonmanual power means is provided to move the shiftable draft element.

479.2 Telescoping drawbar swingable on horizontal guide:

This subclass is indented under subclass 478.1. Vehicles where the drawbar or trailer tongue may elongate or retract as well as slide horizontally on a guide.

SEE OR SEARCH THIS CLASS, SUBCLASS:

479.3, for devices where the retraction is accompanied by forced centering.

479.3 Extensible swingable tow bar with coacting guide for centering:

This subclass is indented under subclass 478.1. Vehicles where either the tow bar or trailer tongue is extensible out if its guide to facilitate coupling with another vehicle after which, during its retraction, wedges, cams or other surfaces react against a guide to center the bar in its normal position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

477, for a mere ramp or wedge on one vehicle which guides a nonextensible tow bar on another vehicle upon relative movement of the two vehicles.

480 This subclass is indented under subclass 400. Devices in which the draft connection between the vehicles is capable of transmitting tension forces, but is incapable of transmitting compression forces between the vehicles.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 305+ for combined fasteners, and subclasses 115+ for cord and rope holders.

480.1 With particular storage for retracted position:

This subclass is indented under subclass 480. Vehicles where the tensile draft connection is stored when not in use in or on particular structure of the vehicle.

(1) Note. Typically this structure is a reel holding a tow cable.

SEE OR SEARCH CLASS:

242, Winding, Tensioning, or Guiding, subclasses 370+, particularly subclasses 390.7, 391+, and 403+ for a reeling device associated with a vehicle.

481 This subclass is indented under subclass 400. Devices in which there is a leading and trailing vehicle (with respect to the direction of motion), the motive power being supplied by the trailing vehicle.

(1) Note. This subclass takes patents claiming a device whose primary disclosed function is to push another vehicle, or patents claiming a fending device of general utility, but having a claim limited to the function of pushing another vehicle.

SEE OR SEARCH CLASS:
213, Railway Draft Appliances, subclasses 220+ for railway car end bumpers or buffers, and subclass 224 for means (e.g., rods) mounted on a railway car which can be used to push a car located on a parallel track.
293, Vehicle Fenders, for fenders of general utility which may be incidentally disclosed as usable to push vehicles.

482 This subclass is indented under subclass 400. Devices in which the normal running distance between a leading and trailing vehicle may be selectively changed.

SEE OR SEARCH THIS CLASS, SUBCLASS:
446.1+, for connections between articulated vehicles which increase in length responsive to articulative movement between the vehicles.
478.1+, for a draft element which may be extended from the vehicle to effect connection with another vehicle and is then returned to its initial position.

483 This subclass is indented under subclass 400. Devices in which the articulated connection between the vehicles or between the draft means and at least one of the vehicles is resiliently biased by spring means or the equivalent against movement in at least one direction from a given position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
439+, for resilient connections between articulated vehicles of the semitrailer type.
449+, for overload release couplings.

SEE OR SEARCH CLASS:
172, Earth Working, subclass 678 for an earth working implement with a spring biased hitch.
267, Spring Devices, for spring devices, per se.

484 This subclass is indented under subclass 483. Devices in which the articulated connection between the vehicles allows relative movement of the vehicles in a plurality of directions or senses, resilient means being provided to resist movement in at least two directions.

(1) Note. Where the articulation between the vehicles includes a pivot or axis of relative movement and resilient means are provided to resist movement in either direction from a neutral position about the pivot or along the axis, such is not considered to be a bias in plural directions.

485 This subclass is indented under subclass 484. Devices in which the resilient means resisting movements in a plurality of directions is made up of a single element such as a coil spring or block of rubber.

SEE OR SEARCH THIS CLASS, SUBCLASS:
440, for resiliently mounted fifth wheel members for semitrailers wherein the resilient means includes rubber or the equivalent.

486 This subclass is indented under subclass 483. Devices in which the vehicles are connected together by a connection allowing limited relative movement therebetween in the direction of draft and resilient means is provided to resist such movement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

441, for semitrailers having fifth wheel elements which may slide longitudinally, such sliding movement being resisted by springs.

487 This subclass is indented under subclass 486. Devices wherein the connection allowing movement between the vehicles in the direction of draft is resiliently biased to an intermediate or neutral position and the resilient means resists movement therefrom in either direction.

(1) Note. The devices in this subclass are designed to provide a resilient connection between the vehicles for either tension or compression in the draft means.

488 This subclass is indented under subclass 483. Devices in which the draft connection between the vehicles is provided with a pivot the axis of which is vertical and resilient means is provided to resist articulation of the draft means about this axis.

489 This subclass is indented under subclass 483. Apparatus in which the draft connection between the vehicles is provided with a pivot the axis of which is horizontal and generally transverse to the line of draft and resilient means is provided to resist articulation of the draft means about this axis.

490.1 Vertically adjustable:

This subclass is indented under subclass 400. Vehicles in which the elevation of the draft or coupling member on at least one of the vehicles may be selectively adjusted with respect to the ground or the vehicle in order to be at the proper height for receiving the corresponding member on the other vehicle, or the coupling member on one of the vehicles provides a plurality of vertically spaced connecting points with which the corresponding coupling member on the other vehicle can be selectively connected.

SEE OR SEARCH THIS CLASS, SUBCLASS:

478.1+, for a draft or coupling member which may be vertically shifted with respect to the vehicle on which it is mounted to facilitate connection with another vehicle and is then returned to its original position.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 321 for an earth working apparatus comprising an actuator on a vehicle for moving a wheeled implement, subclasses 439+ for an earth working implement with a mast type hitch, and subclasses 452+ for an earth working apparatus comprising an actuator adapted to lift an implement for transport on a tractor.

491.1 Retractable, foldable or knockdown:

This subclass is indented under subclass 400. Vehicles in which the draft member is movable from the position occupied on a vehicle when connected to another vehicle to a nonuse or hidden position on the vehicle or in which the draft means is removable from the vehicle and is capable of being folded or disassembled to facilitate handling or storage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

475, for a vehicle draft member which is provided with a retractable stand for supporting the vehicle when in uncoupled condition.

482, for draft devices which are extensible to vary the running distance between two vehicles.

638+, for extensible vehicles.

491.2 Telescoping:

This subclass is indented under subclass 491.1. Vehicles in which the draft means has two members, one of which slides linearly within the other.

(1) Note. This telescopic motion may be compounded by some minor pivotal motion to accommodate the hitch in its final stored position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

479.2, and 479.3, for draft members which may extend to facilitate connection and retract to a normal use position.

482, for draft members which may telescope to plural adjusted draft positions.

491.3 Pivoting to nonuse position with single draft member:

This subclass is indented under subclass 491.1. Vehicles in which the connection is achieved by a single draft member which pivots to its stored position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

491.4, where the connection is achieved by a draft member with braces which fold.

491.4 With folding braces movable to collapsed position:

This subclass is indented under subclass 491.1. Devices where the draft member is rigidly braced in its operative position by vehicle connected members which fold or otherwise collapse to a nonuse position.

(1) Note. The draft member itself may collapse by either pivoting or sliding.

SEE OR SEARCH THIS CLASS, SUBCLASS:

491.3, where only a single, unbraced draft member pivots to a stored position.

491.5 Readily demountable hitch:

This subclass is indented under subclass 491.1. Vehicles characterized by particular structure to easily and selectively detach the hitch or draft member.

(1) Note. This subclass includes temporarily attached hitches.

SEE OR SEARCH THIS CLASS, SUBCLASS:

495+, for vehicle mountings which are not intended to be selectively and readily removed.

492 This subclass is indented under subclass 400. Devices in which the connection between the vehicles includes at least two pivots, the axes of which are spaced apart in the direction of draft, or includes at least two pivots the axes of which intersect, provided the axis of one of the pivots is in or parallel to the line of draft.

SEE OR SEARCH THIS CLASS, SUBCLASS:

504+, for couplings having universal movement, especially subclasses 511+ for ball and socket couplings.

493 This subclass is indented under subclass 492. Devices in which the vehicles are connected together by a rigid draft member which is articulated at each end to one of the vehicles.

494 This subclass is indented under subclass 493. Devices wherein the tow bar is connected to one of the vehicles by a horizontal axis pivot only and is connected to the other vehicle by a vertical axis pivot or universal joint.

495 This subclass is indented under subclass 400. Devices which comprise noncoupling type joints, mountings and connections serving to attach a draft member more or less permanently to a vehicle and in which more is claimed than the mere fact of attachment of the member to the vehicle.

(1) Note. The normally separable coupling element is usually found at the other end of the draft member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

483+, for a resilient connection between a draft member and vehicle.

504+, for detachable coupling connections between articulated vehicles.

496 This subclass is indented under subclass 495. Devices in which the draft transmitting means between a leading and trailing vehicle is connected to the leading vehicle at a point forward of the axis of the rear axle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

473, for laterally offset vehicles in which the draft connection to the leading or propelling vehicle is forward of the rear axle and extends to the side of the vehicle in front of the rear wheel.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 297+ for earth working apparatus comprising

earth working tools positioned forward of the rear of a motor vehicle.

497 This subclass is indented under subclass 495. Devices in which the draft element or hitch member of the leading vehicle is connected thereto or to structure rigid therewith at a plurality of points having different elevations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

461.1, for plural connections between a leading and trailing vehicle which are connected to each vehicle at different elevations.

498 This subclass is indented under subclass 495. Devices in which the mounting of the draft or coupling member on the vehicle includes a pivot allowing relative movement of the member and vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

492+, for draft connections between articulated vehicles having plural spaced joints.

499 This subclass is indented under subclass 498. Devices in which the draft member is connected to the vehicle by a pivot, the axis of which is vertical, and the vehicle is provided a horizontal track or guide spaced from the pivot and engaging the draft member to guide the movement of the member in a horizontal plane.

SEE OR SEARCH THIS CLASS, SUBCLASS:

447, for hitches on which the draft member has its bearing on a horizontal track or guide and travels freely thereon as the leading vehicle turns.

467+, for devices wherein the draft element is adjustably secured to a horizontally extending bar or guide to change the lateral position of the trailing vehicle with respect to the leading vehicle.

500 This subclass is indented under subclass 495. Devices in which a vehicle is provided with a fender or bumper which is modified to form or have connected thereto a coupling element for connecting another vehicle, or in which a coupling element is connected to the vehicle fender or bumper by a removable clamp which embraces the bumper structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

505, for couplings in which a conventional, unmodified bumper forms one element of the coupling connection by which a pair of articulated vehicles are connected and disconnected.

501 This subclass is indented under subclass 500. Devices in which the coupling element is connected to some other portion of the vehicle in addition to being connected to the bumper.

502 This subclass is indented under subclass 500. Devices in which the coupling element is connected to the fender or bumper by elements which grip the bumper and require no modification of the bumper structure to effect the connection.

503 This subclass is indented under subclass 495. Devices in which the draft member is connected to the vehicle axle, axle housing or gear housing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.11+, for running gear construction of a general utility wheeled land vehicle wherein the axle or axle assembly is pivotally mounted upon the vehicle body, chassis, or frame which may or may not involve a draft attachment, especially subclass 124.12 for a resilient, shock absorbing vertical pivot axis mounted axle or axle assembly (i.e., swinging axle) having a draft attachment.

137.501, for a turnable axle lacking resilient, shock absorbing support and including a draft attachment neither claimed or solely disclosed as a handle nor claimed in combination with plural interconnected vehicles.

504 This subclass is indented under subclass 400. Devices in which the articulated vehicles are provided with complementary parts which are releasably connected together to form the draft connection between the vehicles.

(1) Note. This and indented subclasses include subcombinations of couplings or coupling elements which are disclosed for use in connecting articulated vehicles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

433+, for couplings or fifth wheels for releasably connecting a tractor and semitrailer.

495+, for detachable connections, including clamps, between a coupling element and its associated vehicle.

505 This subclass is indented under subclass 504. Devices in which at least one of the vehicles is provided with a conventional fender or bumper which forms one element of the detachable coupling between the vehicles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

500+, for devices wherein one element of a detachable draft coupling connection is secured to the bumper of a vehicle by a clamp, or the conventional bumper structure is modified in some manner to form or have secured thereto one element of a detachable coupling connection.

506 This subclass is indented under subclass 504. Devices in which the coupling is provided with means to reduce noise or shocks due to vibration or play in the coupling parts during use.

507 This subclass is indented under subclass 504. Devices in which means are provided to prevent damage or access to the coupling parts, particularly when in uncoupled relation, or in which means are provided to lock the coupling parts together to prevent unauthorized disconnection.

508 This subclass is indented under subclass 504. Devices in which the opposing coupling members automatically assume a coupled or connected relationship as a result of relative movement toward one another in a horizontal plane and require no manual manipulation at the time of making the connection.

(1) Note. This subclass includes patents where a manual manipulation may be required to preset or condition one of the coupling parts for the connecting action prior to relative movement and actual connection of the parts.

SEE OR SEARCH THIS CLASS, SUBCLASS:

434+, for semitrailer self-coupling devices.

SEE OR SEARCH CLASS:

172, Earth Working, subclass 275 for earth working apparatus comprising a self-coupling connection between a motor vehicle and an implement.

509 This subclass is indented under subclass 508. Devices in which one of the coupling members includes a movable element which is biased to an open position by a spring or gravity or the equivalent to receive a complementary coupling member and is moved to a closed or coupled position by the action of the complementary coupling member during the coupling operation.

510 This subclass is indented under subclass 508. Devices in which one of the coupling members has a movable element which normally occupies a closed position to retain the complementary coupling member and is moved by movement of the complementary member during coupling operation to pass the member after which it returns to the closed position.

511 This subclass is indented under subclass 504. Devices in which the complementary coupling parts are in the form of a ball and a socket.

SEE OR SEARCH THIS CLASS, SUBCLASS:

508+, for ball and socket couplings of the self-coupling type.

SEE OR SEARCH CLASS:

285, Pipe Joints or Couplings, subclasses 91+ for ball and socket joints of general utility.

403, Joints and Connections, subclass 90, 114, and 127+ for ball and socket joints of general utility.

512 This subclass is indented under subclass 511. Devices in which the socket has a portion or portions thereof movable about a fixed axis or axes to permit assembly of the ball therein.

(1) Note. Ball and socket joints wherein a portion of the socket is subjected to compound motion to allow assembly are not included, but will be found in the subclass under which this subclass is indented.

513 This subclass is indented under subclass 511. Devices in which the socket has a portion or portions thereof movable rectilinearly to permit assembly of the ball therein.

514 This subclass is indented under subclass 504. Devices in which each of the coupling members consists of a rigid and integral part which is interfitted with the complementary coupling member, the members being maintained in coupled relationship by the shape of the parts and draft and gravity forces acting thereon.

(1) Note. The coupling elements may be movably connected to the respective vehicles and need to be rigid only in that portion which directly cooperates with the complementary coupling element to effect the connection between the vehicles.

515 This subclass is indented under subclass 504. Devices which comprises a coupling member including two spaced, relatively fixed elements with aligned apertures, a second coupling member having an aperture or eye disposable between the relatively fixed elements of the first coupling member with the three apertures aligned, and a pin member insertable through the apertures and serving to transmit all of the draft of the coupling.

600 This subclass is indented under subclass 11.12. Skates having broad runners (substantially as wide or wider than the human foot) and short in length (when compared to an average ski) especially designed to traverse snow.

601 This subclass is indented under subclass 11.12. Devices having runners substantially as wide as the human foot and far greater in length that a skate, specifically designed for down-hill gliding over snow.

SEE OR SEARCH THIS CLASS, SUBCLASS:

611+, for ski bindings or fastening devices when only that part of the ski which is necessary to make the binding function is claimed.

SEE OR SEARCH CLASS:

36, Boots, Shoes, and Leggings, subclass 4.5 for snow shoes.

441, Buoys, Rafts, and Aquatic Devices, subclasses 68+ for water skis not including a propelling means.

602 This subclass is indented under subclass 601. Skis provided with means to adjust or control the amount of longitudinal flexibility or concavity.

603 This subclass is indented under subclass 601. Skis provided with structure allowing each ski to be made shorter (or longer) relative its longitudinal axis.

604 This subclass is indented under subclass 601. Skis provided with structure which 1) prevents or minimizes slipping when climbing a hill and/or 2) which increases friction between the ski and the snow surface to cause the ski to stop or drastically slow down.

605 This subclass is indented under subclass 604. Skis wherein the braking means is a member which pivots to and from its operative braking position.

606 This subclass is indented under subclass 601. Skis provided with 1) means to adjust or control the direction of forward movement or 2) handle structure which provides a rest or steadying means for the skier.

607 This subclass is indented under subclass 601. Skis provided with specific structure or a separate plate member on which the skiers foot or boot sole rests.

608 This subclass is indented under subclass 601. Skis provided with edge structure which 1) protects the ski from abuse or wear and/or 2)

helps to guide or keep the ski moving in a relatively straight line.

609 This subclass is indented under subclass 601. Skis wherein the bottom or snow engaging surface is provided with a special or other than flat shape or contour.

610 This subclass is indented under subclass 601. Skis made from a plurality of bonded layers and/or from a synthetic or man-made material.

(1) Note. An all metal ski is not considered a synthetic material for purposes of this subclass. For all metal, search subclass 601.

611 This subclass is indented under subclass 11.3. Devices especially designed to secure skis to a shoe or boot.

SEE OR SEARCH THIS CLASS, SUBCLASS:
600+, for skis.

SEE OR SEARCH CLASS:
36, Boots, Shoes, and Leggings, subclass 117.6 for a ski boot with sole structure related to but not positively reciting a ski binding or its specific structure or means to dynamically interact with the ski binding.
441, Buoys, Rafts, and Aquatic Devices, subclass 70 for water skis and their fastenings.

612 This subclass is indented under subclass 611. Fasteners wherein the fastening means utilizes one or more magnets.

613 This subclass is indented under subclass 611. Devices wherein the fastener operator and/or fastener is located in or under the boot sole or on a plate attached to the boot sole.

614 This subclass is indented under subclass 611. Devices in which the ski fastener means may be alternately converted from the cross-country type (only the toe of the boot fastened to the ski) to the downhill type (toe and heel of the boot fastened to the ski), such conversion being obtainable while the boot is attached, in one form or the other, to the ski.

615 This subclass is indented under subclass 611. Devices wherein only the toe of the boot is secured to the ski, allowing the heel to move unrestrained. Simple toe straps are included herein.

616 This subclass is indented under subclass 611. Devices wherein the toe fastener and the heel fastener are interconnected by linkage means which moves each fastener to and from its fastening position simultaneously.

617 This subclass is indented under subclass 611. Devices wherein the toe fastener and the heel fastener are mounted on a common support element or guide means, such means being other than the ski.

618 This subclass is indented under subclass 617. Devices wherein the common support element or guide means is mounted on the ski in such a manner as to be movable relative thereto or releasable therefrom.

(1) Note. Included in this subclass are the fastening means wherein the boot and binding release as a unit from the ski.

619 This subclass is indented under subclass 611. Devices wherein the fastener is in the form of a cable or strap-like element, such element engaging the heel of the boot and/or the ankle area of the boot.

620 This subclass is indented under subclass 619. Devices wherein the cable or strap-like element is mounted on a support element or plate, and such support element or plate is movably and/or releasably mounted on the ski.

621 This subclass is indented under subclass 619. Devices wherein the ski has mounted thereon, means to tighten the cable or strap-like element against the heel or ankle of the boot.

622 This subclass is indented under subclass 619. Devices provided with means to (1) break or sever the cable or strap-like element or (2) means to pull such element away from fastening engagement with the boot.

623 This subclass is indented under subclass 611. Devices wherein the fastener is in the form of a boot sole or heel engaging clamp or hold-down. Each ski may support one or more fastening devices which may be similar or diverse in construction.

SEE OR SEARCH THIS CLASS, SUBCLASS:
616, for hold-downs or clamp interconnected for simultaneous operation.

624 This subclass is indented under subclass 623. Devices wherein the hold-down is positioned at the sides of the boot and/or at the heel of the boot, but not at the toe of the boot. Such fastening means or hold-downs are known in the art as "Spademan" bindings.

625 This subclass is indented under subclass 623. Devices wherein each hold-down or clamp has two or more boot sole engaging members which may or may not be separately operable.

626 This subclass is indented under subclass 623. Devices wherein the hold-down or clamp is pivotable about a horizontal axis, a vertical axis or both.

(1) Note. Toe irons or side cheeks which adjust to different sizes about a vertical axis are not considered pivotable for this subclass, but will be found in this class (280) subclass 635.

627 This subclass is indented under subclass 626. Devices wherein the pivotable hold-down or clamp is used in conjunction with a side-cheek or other nonpivotable hold-down or clamp.

628 This subclass is indented under subclass 626. Devices wherein the fastener is mounted so as to pivot on at least two axes, one being horizontal and the other vertical.

629 This subclass is indented under subclass 626. Devices wherein a single hold-down structure is pivotable about one or more vertical axes.

630 This subclass is indented under subclass 629. Devices wherein the hold-down pivots about only one axis and that axis is fixed.

631 This subclass is indented under subclass 626. Devices wherein the hold-down pivots on a single horizontal axis which is fixed in a position transverse of the ski.

632 This subclass is indented under subclass 631. Devices provided with a latch or catch means to hold the pivoted hold-down in a boot engaging position.

633 This subclass is indented under subclass 623. Hold-downs or clamps wherein the means supporting the hold-down or clamp is adjustable relative to and/or detachable from the ski.

634 This subclass is indented under subclass 623. Hold-downs or clamps wherein the structure is specific to the hold-down detent or spring tension structure and/or adjustment means therefor.

635 This subclass is indented under subclass 623. Devices which are fixed to or pivotally mounted on the ski and designed to engage the sides of the ski boot sole, adjacent the toe end, in a wedging manner as to heel engaging cable or other suitable means forces the boot forward.

636 This subclass is indented under subclass 611. Devices having means between the ski boot sole and the ski for supporting and guiding the movement of the boot relative to the ski and/or for reducing friction therebetween.

637 This subclass is indented under subclass 611. Devices having a tether or safety line between the ski boot and the ski, the purpose of which being to prevent the ski from being lost should the ski be separated from the boot.

638 This subclass is indented under subclass 29. Wheeled vehicles constructed in such a manner so as to allow the physical dimension of the vehicle, or part thereof, to vary or change.

(1) Note. The following features, generally associated with vehicles of the type found elsewhere in this class are not considered extensible:

A. Detachable or changeable bodies or body portions which are intended to be

attached or removed merely for the purposes of selectively adapting the vehicle to carry different types of loads without change in a vehicle dimension other than that produced by the different bodies.

B. Transitory changes in the wheel and axle positions to aid in loading.

C. Changes in the position of a loading toe or of a rack associated with the toe.

D. Retractable elements, as for example, rest legs which do not, when extended, produce a substantial change in an overall dimension of the vehicle.

See the search notes below for subclass references to these art areas.

SEE OR SEARCH THIS CLASS, SUBCLASS:

47.18, for detachable or changeable bodies or body portions which are intended to be attached or removed merely for the purposes of selectively adapting the vehicle to carry different types of loads without change in a vehicle dimension other than that produced by the different bodies .

47.21, for transitory changes in the wheel and axle positions to aid in loading.

47.27+, for changes in the position of a loading toe or of a rack associated with the toe.

47.33, for retractable elements, as for example, rest legs which do not, when extended, produce a substantial change in an overall dimension of the vehicle.

87.05, for extensible coasters.

278, and 287, for extensible and knockdown occupant propelled vehicles.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 67 for a structure of more general application having telescoping sub and main enclosures.

639 This subclass is indented under subclass 638. Vehicles which vary dimension by folding from a condition of use to a more compact or smaller nonuse form, for ease of storage or shipment.

(1) Note. Folding baby-carriages are found in this group.

SEE OR SEARCH THIS CLASS, SUBCLASS:

9+, for vehicles with wheels and runners, the wheels or runners being retracting.

20, for folding sleds.

32.6, for folding repairmen's creepers.

47.25, and 47.38+ for nonfolding, occupant seating carts or baby-carriages.

SEE OR SEARCH CLASS:

297, Chairs and Seats, subclasses 16.1+ for a chair or seat having relatively folding bottom, back and legs; subclasses 311+ for a seat bottom movable relative to the remaining structure; subclass 350 for a laterally folding or collapsible back; and subclasses 353+ for a back movable relative to the remaining structure.

640 This subclass is indented under subclass 639. Folding vehicles designed to movably support a casket or stretcher.

641 This subclass is indented under subclass 38. Folding vehicles in which the axis of each wheel-carrier pivot is arranged in a direction transverse to the normal forward direction of travel of the vehicle.

642 This subclass is indented under subclass 641. Folding vehicles which are in the form of a manually powered chair, baby stroller, carriage, perambulator, etc., and are structurally stable without the aid of the operator.

643 This subclass is indented under subclass 642. Folding vehicles designed to provide a secondary function different from a primary function, by the addition, subtraction or rearrangement of parts; e.g., carriage to stroller or bed to seat.

644 This subclass is indented under subclass 642. Folding vehicles wherein the vehicle body, as opposed to the framework and wheel carriers, is made of a flexible material, such as leather or cloth.

645 This subclass is indented under subclass 641. Folding vehicles comprising a manually powered vehicle, adapted to rely upon the operator for equilibrium when in operation, and having wheel carriers which are pivoted to the vehicle frame structure.

646 This subclass is indented under subclass 645. Folding vehicles having a pair of wheels mounted upon members which are adapted to swing toward each other from opposite sides of the vehicles as the vehicle is being folded.

647 This subclass is indented under subclass 639. Folding vehicles which are manually powered and designed to carry an animate occupant in a specific position.

648 This subclass is indented under subclass 647. Folding vehicles designed to provide a secondary function different from that of a primary function by the addition, subtraction or rearrangement of parts, e.g., carriage to stroller or bed to seat.

649 This subclass is indented under subclass 647. Folding vehicles comprising a frame, itself comprised of plurality of elongated members, at least two of which are on each side of the vehicle and are pivotally connected to each other intermediate their ends.

650 This subclass is indented under subclass 647. Folding vehicles intended to carry the occupant in a seated position.

651 This subclass is indented under subclass 639. Wheeled vehicles comprising a simple vehicle designed to support and transport a load and being powered by manual pushing or pulling.

652 This subclass is indented under subclass 651. Folding carts having one or two wheels and relying upon the manual operator for equilibrium when in operation.

653 This subclass is indented under subclass 652. Folding carts having one wheel on the front end and two handles on the rear end.

654 This subclass is indented under subclass 652. Folding carts having a frame member, a manually engagable handle at upper end thereof and a wheel or wheels attached to the lower end thereof.

655 This subclass is indented under subclass 652. Folding carts provided with a manually engageable handle means, such handle means designed to collapse or fold from a use to a nonuse position.

655.1 Handle only is collapsible:
This subclass is indented under subclass 639. Vehicles where only the handle is folded and retracted so as to change the overall dimensions of the vehicle in changing from a use to a non-use vehicle condition.

(1) Note. Where handle movement is additional to other parts collapsing, see subclasses above.

656 This subclass is indented under subclass 638. Extensible vehicles structurally designed to by pulled or towed behind another wheeled vehicle on which the trailer is dependent for motion.

657 This subclass is indented under subclass 638. Extensible vehicles designed to transport or aid in the transport of an animal or human being.

658 This subclass is indented under subclass 657. Extensible vehicles designed for a baby or small child.

659 This subclass is indented under subclass 638. Extensible vehicles designed to transport an article utilizing manual power.

676 This subclass is indented under subclass 104. Land vehicles in which the axles between which the weight or load is equalized include two or more axles in tandem, so located at one end of the frame of the vehicle that additional means are required for supporting the other end of the frame.

677 This subclass is indented under subclass 676. Tandem axles wherein each of the tandem axles is associated with or attached, one at either end, to an elongate beam member and the beam member being pivotally connected at or near its center to the frame of the vehicle.

678 This subclass is indented under subclass 677. Tandem axles with walking beams, provided with a suspension means having one or more fluid type (liquid or gas) springs.

679 This subclass is indented under subclass 677. Tandem axles with walking beams, provided with a suspension means having one or more torsion type spring elements.

680 This subclass is indented under subclass 677. Tandem axles with walking beams, provided with a suspension means having one or more leaf type spring elements.

681 This subclass is indented under subclass 677. Tandem axles with walking beams, provided with a suspension means comprising one or more rubber spring or cushioning elements.

682 This subclass is indented under subclass 676. Tandem axles wherein each axle is attached to a leaf spring means at approximately the center thereof, the outboard end of each leaf spring being pivotally connected to the vehicle frame and the inboard end of each spring being pivotally connected to a "rocker" means or assembly, such means or assembly being pivotally attached, at its center, to the vehicle frame.

683 This subclass is indented under subclass 676. Tandem axles provided with a fluid (liquid or gas) spring or spring suspension system between the axles and vehicle frame.

684 This subclass is indented under subclass 676. Tandem axles provided with a suspension means between the axles and vehicle frame, such suspension means comprising spring means of the torsion type.

685 This subclass is indented under subclass 676. Tandem axles provided with a suspension means between the axles and vehicle frame, such suspension means comprising spring means of the coil or helix type.

686 This subclass is indented under subclass 676. Tandem axles provided with a suspension means between the axles and vehicle frame, such suspension means comprising spring means of the leaf type.

687 This subclass is indented under subclass 676. Tandem axles provided with a suspension means between the axles and the vehicle frame, such suspension means comprising spring or cushioning means made of rubber or a similar resilient substance.

727 This subclass is indented under subclass 29. Devices adapted for attachment to various parts of a vehicle to perform some special function.

728.1 Inflatable passenger restraint or confinement (e.g., air bag) or attachment:
This subclass is indented under subclass 727. Devices wherein the attachment comprises a bag designed to inflate upon impact of the vehicle with an external object and thereby confine a vehicle occupant in a protective environment made up of a confinement bag and a vehicle seat.

(1) Note. A passenger restraining device of the inflatable type is provided for only in this class (280).

SEE OR SEARCH THIS CLASS, SUBCLASS:
801.1, for safety belts, per se.

728.2 With specific mounting feature:
This subclass is indented under subclass 728.1. Devices combined with means to connect: (a) the bag housing to a vehicle, (b) the bag to a housing or an inflator or (c) an inflator to a housing.

728.3 Deployment door:
This subclass is indented under subclass 728.1. Devices having a cover or lid which opens upon inflation of the bag.

729 Devices under subclasses 728.1+ wherein the confinement (air bag) is made of a plurality of individual compartments or is made of two or more bags, one within the other.

730.1 Inflated confinement specially positionedrelative to occupant or conforming to the body shape of occupant:
This subclass is indented under subclass 728.1. Devices wherein the confinement, when inflated, is (a) positioned in a particular manner with respect to the occupant's body or (b) is

shaped or contoured with respect to a particular part of the occupant's body.

730.2 Mounted in vehicle and positioned laterally of occupant:
This subclass is indented under subclass 730.1. Devices wherein the confinement is stored during its nonuse or uninflated condition within the vehicle at the side of the occupant.

SEE OR SEARCH CLASS:
297, Chairs and Seats, subclasses 216.1+ for a crash seat.

731 Devices under subclasses 728.1+ wherein the confinement is stored in its nonuse or deflated condition within or on the vehicle steering column.

SEE OR SEARCH THIS CLASS, SUBCLASS:
777, for a land vehicle of the wheeled type provided with means whereby one or more of its wheels may be steered by an occupant and wherein the steering column or other element of the means is movable in response to a collision, and see especially (1) Note of that subclass.

732 Devices under subclasses 728.1+ wherein the confinement is stored in its nonuse or deflated condition within or on the vehicle instrument panel or “dash-board”.

733 Devices under subclasses 728.1+ wherein the inflatable confinement is 1) shaped as or resembles a belt, strap or harness arrangement and/or 2) is combined with a belt, strap or harness arrangement.

SEE OR SEARCH THIS CLASS, SUBCLASS:
801.1+, for noninflatable safety belt and harness arrangements and for inflatable safety belt and harness arrangements which inflate under conditions other than upon impact or impending impact.

734 Devices under subclasses 728.1+ which are inflated in response to one or more particular vehicle conditions which assume impending collision or crash.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 268+ for a motor vehicle provided with a belt or harness for restraining an occupant and with means whereby the belt or harness controls, or is controlled by, the functioning of a vehicle system or component; and subclasses 271+ for a motor vehicle provided with means (frequently a means which is responsive to a condition of the vehicle or its operation) for promoting the safety of the vehicle, its occupant or load, or an external object.

735 This subclass is indented under subclass 734. Devices wherein the confinement inflation initiation means and or condition sensor is electrical.

SEE OR SEARCH CLASS:
200, Electricity: Circuit Makers and Breakers, subclasses 61.45+ for electric switch sensors.
307, Electrical Transmission or Interconnection Systems, subclass 10.1 to complete the search for electric control for air bags.
340, Communications: Electrical, subclass 436 and 438 for electrical alarms or indicators of collision or contact with an external object or responsive to a condition of the vehicle.

736 Devices under subclasses 728.1+ having an inflation fluid source or generator and the means to control such fluid flow from the source to the confinement or to the atmosphere or such fluid flow from the confinement to the atmosphere.

737 This subclass is indented under subclass 736. Devices provided with means to open or rupture a closure in the fluid source to allow the inflation fluid to flow to the confinement.

SEE OR SEARCH CLASS:
137, Fluid Handling, subclasses 67+ for destructible valve control.
222, Dispensing, subclass 3 for gas dispensing that can be used with an air bag and subclass 5 for gas dispensing with a cutter or punch.

441, Buoys, Rafts, and Aquatic Devices, subclasses 90+ for mechanical inflation means (e.g., lever actuated compressed gas release).

738 This subclass is indented under subclass 736. Devices having means to draw ambient air into the flow line and mix such air with the inflation fluid, such mixture being the total or resultant inflation fluid which fills the confinement.

739 This subclass is indented under subclass 736. Devices provided with means to deflate the confinement after inflation thereof.

740 This subclass is indented under subclass 736. Devices wherein the confinement is provided with means to diffuse or deflect the stream of inflation fluid, thereby spreading the stream of inflation fluid from a single point to a more general area within the confinement.

SEE OR SEARCH CLASS:
55, Gas Separation, appropriate subclasses for specific filter structure, per se.

741 Devices under subclasses 728.1+ having a specific inflation fluid source or generator therefor.

SEE OR SEARCH CLASS:
102, Ammunition and Explosives, subclasses 200+ for igniters, per se, and subclasses 530 and 531 for cartridged gas generators.
422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclass 164, 165, and 166 for gas generators that can be used with an air bag.

742 Devices under subclasses 728.1+ having a specific inflation fluid control therefor.

(1) Note. See search notes in subclass 737 above.

743.1 Specific confinement structure:
This subclass is indented under subclass 728.1. Devices wherein the confinement or the bag is provided with a specific shape or is defined by its specific structure.

SEE OR SEARCH CLASS:
383, Flexible Bags, subclass 3 for flexible bags which are inflatable.
493, Manufacturing Container of Tube From Paper; or Other Manufacturing From a Sheet or Web, subclasses 405+ for bag folding, per se.

743.2 With confinement expansion regulating tether or strap:
This subclass is indented under subclass 743.1. Devices combined with a strip or band which controls the inflation of the bag to conform to a certain shape or limit the extension of the bag.

748 This subclass is indented under subclass 727. Devices designed to protect a vehicle occupant from injury should the vehicle sharply decelerate or collide with another object.

SEE OR SEARCH THIS CLASS, SUBCLASS:
728.1+, for inflatable “air-bag” confinements.
801.1+, for seat belts and shoulder harnesses.

749 This subclass is indented under subclass 748. Devices comprising nets, curtains, transparent sheets or the like, designed to catch or restrain the forward movement of a vehicle occupant, should the vehicle sharply decelerate or collide with another object.

750 This subclass is indented under subclass 748. Devices connected to the vehicle steering wheel or column and designed to protect the vehicle driver by cushioning the driver impact on the steering wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:
731, for “air-bag” type confinements associated with a vehicle steering column.

SEE OR SEARCH CLASS:
74, Machine Element or Mechanism, subclasses 492+ for steering posts, per se, subclass 552 for steering wheels, per se.

751 This subclass is indented under subclass 748. Devices wherein the safety guard comprises 1) the addition of padding to the standard interior vehicle elements and/or 2) addition of non-

standard, padded elements to the vehicle interior, all of which being designed to cushion an occupant impact upon the element should a collision occur.

752 This subclass is indented under subclass 751. Devices wherein 1) the padded member is the vehicle instrument panel or dashboard or 2) the instrument panel or dashboard is modified in such a manner as to receive a padded or cushioned member.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclass 90.
296, Land Vehicles: Bodies and Tops, subclass 70 for similar art.

753 This subclass is indented under subclass 751. Devices which move from an inoperative position to an operative position upon the occurrence of a condition, that condition usually being rapid deceleration.

754 This subclass is indented under subclass 727. Devices which extend between the vehicle frame (or other unsprung portion) and the vehicle axle (or other sprung portion) for the purpose of preventing the vehicle spring from flexing in either or both directions.

(1) Note. These devices are usually used to lock the vehicle spring and body together to prevent having to raise the body of an automobile excessively off the ground to change a tire.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 199+ for a motor vehicle which is provided with powered, ground-engaging means for producing, or assisting in the production of, lateral movement of the vehicle (e.g., for parking), and see particularly (2) Note of subclass 199 regarding the frequent appearance, in that area, of a device or element for preventing the sagging of a wheel and its suspension members when the portion of the vehicle to which they are attached is raised.

755 This subclass is indented under subclass 727. Devices designed to stabilize or otherwise keep the vehicle from rolling or tilting past a given point.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5.501+, for a land vehicle including suspension modification enacted as a result of a force encountered during surface traversing motion wherein the force encountered represents a perceived abnormal or hazardous handling or ride posture characteristic.
28.15, for a central runner vehicle including an auxiliary runner.
28.16, for a runner vehicle including an auxiliary runner.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 282+ for a motor vehicle which is provided with means for promoting the safety of the vehicle, its occupant or load, or an external object, and wherein the means is one which may be responsive to the sensing of a tilt of the vehicle.

756 This subclass is indented under subclass 727. Devices wherein the vehicle is provided with one or more bar arrangements extending over and around the occupant compartment, such bar or bar arrangement designed 1) to protect the occupant from being crushed should the vehicle overturn and/or 2) protect the occupant from object falling from overhead.

757 This subclass is indented under subclass 727. Devices which can be attached to a conventional vehicle and which are designed to provide traction with the road surface to eliminate skid or slide.

SEE OR SEARCH CLASS:
188, Brakes, subclasses 5+ for a brake for nonrail vehicle, which brake is applied to the ground for the purpose of either checking the vehicle's forward motion or preventing side motion or skidding thereof.

758 This subclass is indented under subclass 757. Devices wherein the added traction is provided by a shift in position of movable weights, such shift caused by the centrifugal force generated as the vehicle begins to change direction.

759 This subclass is indented under subclass 757. Devices wherein the added traction is provided by the addition of static weight masses.

760 This subclass is indented under subclass 727. Devices wherein the attachment is in the form or 1) a platform or shelf type accessory or 2) the means by which tractor accessories are mounted or attached to the tractor frame.

761 This subclass is indented under subclass 727. Devices wherein the attachment is in the form of a manually actuated device designed to minimize the physical effort required to parallel park a vehicle. The devices usually take the form of means to relieve a major portion of the weight of the steering wheels.

SEE OR SEARCH CLASS:

180, Motor Vehicles, subclasses 199+ for a motor vehicle which is provided with powered, ground-engaging means for producing, or assisting in the production of, lateral movement of the vehicle (e.g., for parking); and subclass 204 for a motor vehicle which is provided with a device for programmably operating the vehicle's steerable wheels during a parking maneuver of the vehicle.

762 This subclass is indented under subclass 727. Attachments which are attached to and used on the exterior of the vehicle.

763.1 Retractable prop, support or stabilizer:
This subclass is indented under subclass 762. Device which provides the vehicle with a means to brace or hold the vehicle in a fixed or established position, such means being carried by the vehicle in a nonuse, stored position, and such means provided with a mechanism which will extend or otherwise move the means into a use position, when the vehicle is not in motion.

(1) Note. Included herein are devices which relieve the vehicle suspension or vehicle wheels of the weight of the vehicle in order to stabilize the vehicle in a working position, e.g., outrigger. Also included are devices which level a stationary vehicle relative to an unlevel vehicle supporting surface.

SEE OR SEARCH THIS CLASS, SUBCLASS:

6.153, for a vehicle including (a) means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame or (b) an attached retractable prop, stand, or support which is interrelated to a means interposed between the vehicle body, chassis, or frame and running gear thereof.

SEE OR SEARCH CLASS:

254, Implement or Apparatus for Applying Pushing or Pulling Force, subclasses 418+ for a vehicle attached jack which is extended by a power or force increasing mechanism, to lift the vehicle or a part thereof off of the vehicle supporting surface, for the purposes of repair to the vehicle or to position the vehicle relative to something else, e.g., positioning a semitrailer relative to a tractor for coupling to or uncoupling from the trailer.

293, Vehicle Fenders, for the combination of a jack and a vehicle bumper.

764.1 With actuator for pivoted support:
This subclass is indented under subclass 763.1. Device wherein the prop, support or stabilizer is hinged to the vehicle frame in such manner so as to pivot or swing into or out of an operative position, and such prop, support or stabilizer is provided with structural means to initiate or bring about such movement.

765.1 Having additional translating or telescoping movement:
This subclass is indented under subclass 864.1. Device wherein the swinging or pivoting movement is coupled with a translating, telescoping or otherwise elongating movement, both movements being necessary to bring the prop, support or stabilizer into operative position.

766.1 With actuator for translating or telescoping movement:
This subclass is indented under subclass 763.1. Device wherein the prop, support or stabilizer moves in operative position by means of a translating, telescoping or otherwise elongating movement, and such prop, support or stabilizer is provided with structural means to initiate or bring such movement about.

767 This subclass is indented under subclass 762. Substitute or auxiliary wheels for assuming the weight of the vehicle when either the tires, wheels or axles thereof are disabled for any reason.

768 This subclass is indented under subclass 762. Devices wherein the attachment is a skirt or barrier to be used in conjunction with a house trailer, mobile home or the like, such skirt to extend from the floor level to the trailer to the ground and usually being for purpose of insulation, storage and/or appearance.

769 This subclass is indented under subclass 762. Device designed to support and carry a load.

SEE OR SEARCH CLASS:
224, Package and Article Carriers, for a vehicle supported article carrier, where the organization of the vehicle is unchanged.

770 This subclass is indented under subclass 762. Devices designed to protect a particular part of the vehicle from externally caused damage.

771 Occupant steered:
This subclass is indented under subclass 80.1. Subject matter wherein the running gear includes means operable by a vehicle operator positioned upon or within the vehicle to alter a travel path of the vehicle.

(1) Note. The feature of a steering wheel or other similar operator extremity engaged member is not required for classification in this subclass or those indented hereunder, but rather it is merely required that the vehicle be capable of effecting alteration of a travel path under control of an operator positioned upon or within the vehicle as contrasted with an attendant steered vehicle which is provided elsewhere.

(2) Note. During a reclassification of former indented subclasses 93+, now abolished, and other former subclasses, subclasses 688+, now abolished, it was established that a conflict existed between these subclasses because both involved suspension mounting of a steerable road wheel. Concurrent with the reclassification, the suspension arrangement or mounting aspect was assigned a superior position in the schedule hierarchy. The superior position within the schedule hierarchy is based on the fact that a suspension arrangement or mounting aspect provides for attaching and controlling movement of the steerable road wheel relative to the vehicle body, chassis, or frame whereas the feature of occupant controlled steering means for such a steerable road wheel is limited to pivotal motion about a vertical axis.

SEE OR SEARCH THIS CLASS, SUBCLASS:
16, and 21.1, for occupant-steered sleds.
47.11, for hand-propelled vehicles with steering means.
263+, for occupant-propelled vehicles with steering means.

SEE OR SEARCH CLASS:
180, Motor Vehicles, subclasses 400+ for a motor having means for guiding it, and see the search notes therein to other subclasses of that class (180) which relate to the steering of a motor vehicle.

773 With manually powered hydraulic steering:
This subclass is indented under subclass 771. Apparatus comprising steerable wheel moving means comprising a liquid impelling means powered by the normal manual steering action of a vehicle operator, the impelled liquid providing the force to steer the vehicle.

774 With remote position steering:
This subclass is indented under subclass 771. Apparatus wherein addition to the normal steering arrangement there is provided means by which the vehicle operator may guide the

vehicle from a position spaced from the normal operator's steering position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

93.503, for an occupant controlled steering arrangement including alternate or repetitive means for creating pivoting movement of steerable road wheels operable from a single operator's position.

775 With adjustable steering wheel or column:

This subclass is indented under subclass 771. Apparatus wherein the steering wheel is movable to at least one other operating position at the occupant's steering station.

(1) Note. The steering wheel may be moved to either another use or to a nonuse position.

776 Including bias means maintaining steerable wheel and elongate surface engagement (e.g., furrow followers):

This subclass is indented under subclass 771. Apparatus in which there is provided means connected to a movable steering part for either urging or maintaining a steerable ground engaging wheel in engagement with elongate side wall or a rut, curb, or the like for steering the vehicle thereby (e.g., furrow followers).

SEE OR SEARCH THIS CLASS, SUBCLASS:

87.2, for another land vehicle of the occupant steered type which is adapted to follow a rut, curb, or the like, but wherein an additional wheel is provided for engaging such a surface feature, and see the search notes of that subclass (87.2) for related art in other classes.

777 Steering column or wheel movable in response to collision:

This subclass is indented under subclass 771. Apparatus wherein the steering means includes parts either movable or deformable upon receipt of an excessive frontal impacting force so that possible injury thereby to the occupant (vehicle operator) is either avoided or minimized.

(1) Note. A bag inflatable on impact mounted on a steering column is not considered to be a movable or deformable steering part for classification here, see Class 280, subclasses 728+. However, an inflatable air bag mounted on a steering means having claimed movable or deformable parts responsive to an impact force in excess of a normal operating force is considered proper for classification here.

(2) Note. Included in this subclass are patents in which steering mechanism is moved by either the impact of a collision or by a vehicle operator in response to forces of a collision.

778 Plural steering hand grips or noncoaxial steering wheel and column:

This subclass is indented under subclass 771. Apparatus comprising either plural manually engageable and movable steering members or a manually engageable steering wheel rotating about an axis other than the axis of its associated steering column means for steering the vehicle.

779 This subclass is indented under subclass 771. With steering column mount or support: Apparatus comprising the structure fixedly holding the steering post or column in place on the vehicle.

780 Having nonrigid member:

This subclass is indented under subclass 779. Apparatus wherein the means to hold and maintain the steering post or column in its normal operating position includes either a resilient or a pliant means to allow for slight (either misalignment or relative) movement between the steering post or column and the vehicle.

781 Specific vehicle frame:

This subclass is indented under subclass 80.1. Wheeled running gear having a frame on which a vehicle body may be mounted.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 633+ for openwork structures such as trusses or trellises; and subclasses 720.1+ for elongated rigid

members having general application including vehicle use as disclosed.

105, Railway Rolling Stock, subclass 397 and 404 for passenger and freight car frames.

180, Motor Vehicles, subclasses 291+ for a motor vehicle wherein the motor and the body frame are related specifically to one another; and subclass 311 for a frame for a vehicle, which frame includes a feature peculiar to a vehicle of the motor-propelled kind.

296, Land Vehicles: Bodies and Tops, subclasses 178 through 187 and 203.01+ for vehicle frames claimed in combination with body structure and a disclosure of or a broadly claimed reference to running gear.

782 Forming fluid or electrical conduit means or having other means to accommodate the transmission of a force or signal:

This subclass is indented under subclass 781. Apparatus in which the frame, or a portion thereof is constructed (1) to serve as a fluid or electrical conductor, or (2) to accommodate means for the transmission of energy.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5+, for a vehicle having a vehicle service tank.

SEE OR SEARCH CLASS:

224, Package and Article Carriers, subclasses 400+ for vehicle attached carriers.

783 Having storage compartment:

This subclass is indented under subclass 781. Apparatus in which the vehicle frame is particularly constructed to encompass or to form a means usable to store or confine a miscellaneous article or substance.

SEE OR SEARCH THIS CLASS, SUBCLASS:

5+, for a vehicle having a service tank attached thereto.

SEE OR SEARCH CLASS:

224, Package and Article Carriers, subclass classes 400+ for vehicle attached carriers.

296, Land Vehicles: Bodies and Tops, subclasses 10+ for a vehicle body which is a convertible box; and subclasses 37+ for vehicle bodies having an auxiliary article compartment.

784 Having impact absorbing means:

This subclass is indented under subclass 781. Apparatus in which a portion or all of the frame is designed to permanently or temporarily change shape or dimension upon impact of the frame with another body.

SEE OR SEARCH CLASS:

293, Vehicle Fenders, subclasses 107+, 129, 131, and 132+ for impact absorbing bumpers for vehicles.

296, Land Vehicles: Bodies and Tops, subclass 189 for impact absorbing body structure.

785 Assembled from prefabricated connectable sections:

This subclass is indented under subclass 781. Apparatus in which the frame is an assemblage of a plurality of unitary preassembled structural members adapted to be interconnected or otherwise joined together.

786 Single longitudinal beam type:

This subclass is indented under subclass 781. Apparatus having a single backbone type beam member comprising the sole longitudinal structural member extending substantially the length of the frame.

787 With spring suspension means:

This subclass is indented under subclass 786. Apparatus in which the frame member is provided with a spring suspension means whereby said frame is mounted to its supporting structure (e.g., running gear).

788 With resilient means for suspension:

This subclass is indented under subclass 781. Apparatus in which the frame member is provided with a spring suspension means whereby said frame is mounted to its supporting structure (e.g., running gear).

(1) Note. This subclass accepts a running gear combination of specific frame construction and a suspension arrangement. However, when the claim is directed to

the suspension with only a nominal recitation of frame structure, the patent is properly classified in an appropriate subclass provided elsewhere for the particular suspension arrangement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1+, for particular running gear construction for a general utility wheeled land vehicle including a resilient, shock absorbing suspension arrangement.

789 Trailer type:

This subclass is indented under subclass 781. Apparatus in which the frame is specifically constructed for use in a nonpowered vehicle to be pulled by a tractor or other vehicle having self-propelling means.

(1) Note. Patents are classified in this subclass in which the type of vehicle is claimed nominally (e.g., semitrailer, boat trailer, etc.); however, patents claiming structure which accommodates a specific load or which are specific to any type of vehicle are classified with that type of vehicle. See the search notes below for semitrailers and boat trailers.

(2) Note. Patents are classified in this subclass in which a hitching means for the trailer is nominally claimed. Patents claiming vehicles and specific hitch structure are classified elsewhere in this class.

SEE OR SEARCH THIS CLASS, SUBCLASS:

423.1+, for semitrailers.

414+, for boat trailers.

491.1+, for vehicles and specific hitch structure.

790 Having vertically offset load bearing surface:

This subclass is indented under subclass 781. Apparatus in which a section of the frame when viewed in side elevation, has a portion which is vertically offset from at least another portion of said frame along its length and said portion is capable of supporting a load.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2, for vehicle frames claimed in combination with a body having a drop portion, or frames having a drop portion claimed in combination with body means and/or axle(s) for wheels.

791 Pinched frame type:

This subclass is indented under subclass 781. Apparatus formed of a plurality of first vehicle frame sections having elongated members extending longitudinally and spaced transversely of the vehicle, said sections being spaced longitudinally of the vehicle and connected by other longitudinal frame means of lesser transverse dimension than that of the first frame sections.

792 Wide-hipped frame type:

This subclass is indented under subclass 781. Apparatus in which the shape of the frame as seen in plan view includes a wide box-shaped mid portion and narrower sections extending from said mid portion in both fore and aft directions.

793 X-frame type:

This subclass is indented under subclass 781. Apparatus having members which form an X as the frame is seen in plan view.

794 Transverse frame members form "X":

This subclass is indented under subclass 793. Apparatus in which the frame is provided with members extending generally transversely of the frame and which are crossed or otherwise interconnected to form an X as seen in plan view.

795 Transverse member is body support:

This subclass is indented under subclass 781. Apparatus wherein the frame is provided with a transversely extending member by which a body may be supported.

796 Having tubular transverse frame member:

This subclass is indented under subclass 781. Apparatus having a transverse frame member which is circular or oval shaped in cross section.

797 Longitudinal frame member is box-shaped:
This subclass is indented under subclass 781. Apparatus having a longitudinal frame member which is square or rectangular shaped in cross section.

798 Longitudinal frame member is tubular:
This subclass is indented under subclass 781. Apparatus having a longitudinal frame member which is circular or oval shaped in cross section.

799 Longitudinal frame member is an "I" beam:
This subclass is indented under subclass 781. Apparatus having a longitudinally extending frame member which is I-shaped in cross section.

800 Longitudinal frame member is channel-shaped:
This subclass is indented under subclass 781. Apparatus having a longitudinally extending member which is channel-shaped in cross section.

801.1 Safety belt or harness, e.g., lap belt or shoulder harness:
This subclass is indented under subclass 727. Apparatus wherein the vehicle is provided with a flexible, straplike member engageable with the body of a vehicle occupant and preventing, restraining, or limiting movement of the occupant relative to the vehicle should the vehicle sharply decelerate, collide with another object, or be involved in any other sudden, unexpected movement.

(1) Note. A safety belt or harness included in this and the indented subclasses must be combined with significant vehicle structure such as, (a) where the vehicle structure has been specifically modified in some way to accommodate the belt or harness device, (b) where the vehicle structure operationally cooperates with the belt or harness device (e.g., the folding of the front seat back moves belt system to allow occupant access to the rear seat of the vehicle or the belt or harness device relies upon the opening or closing of a vehicle door for its operation), or (c) where the belt or harness device is combined with other extraneous vehicle structure (e.g., a door or a portion thereof, a door opening, a dashboard, a windshield, a vehicle, brake or bumper, a rocker panel, or seating arrangements peculiar to a vehicle). Mere, incidental attachment of the belt or harness device or accessories therefor to named, conventional vehicle body portions (e.g., the vehicle body or frame, center post, transmission tunnel, roof rail, floor pan, side panel, or vehicle seat) or the location of a portion of the belt or harness device relative to such named, conventional vehicle body portions does not constitute significant vehicle structure and will, accordingly, place the document elsewhere. See the Search Class notes below.

SEE OR SEARCH THIS CLASS, SUBCLASS:

733, for an inflatable device designed to inflate upon impact or impending impact where the inflatable device is (a) shaped as or resembles a belt, strap, or harness arrangement or (b) is combined with belt, strap, or harness arrangement.

801.2, for a safety belt or harness having an adjustable anchor means.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., particularly subclasses 572+ for a device in the nature of a buckle for joining two straplike members.

180, Motor Vehicles, subclasses 268+ for a safety belt or harness operationally combined with a motor vehicle system (e.g., the ignition circuit) or a component (e.g., the transmission selector lever).

297, Chairs and Seats, subclasses 468+ for a safety belt or harness device, per se, combined with a seat or combined merely with named, conventional vehicle body portions, see (1) Note above.

340, Communications: Electrical, subclass 457.1 for a specific, vehicle-mounted, electrical system which may involve a circuit which includes elements of a seat belt.

801.2 Having adjustable anchor means:
This subclass is indented under subclass 801.1. Apparatus wherein a support for the flexible, straplike member is attached to a mounting means; the mounting means includes a device which permits at least two selective operational positions for the support.

(1) Note. The mounting means is rigidly fixed to the vehicle structure other than a vehicle seat (e.g., door, floor, or roof).

SEE OR SEARCH CLASS:
248, Support, subclass 297.31 for step-by-step adjustment of anchor means.
297, Chair and Seats, subclasses 468+ for a support attached to a mounting means connected to a vehicle seat.

802 Passive restraint system:
Apparatus under subclasses 801.1+ wherein at least a portion of the apparatus is automatically movable from a vehicle entry position, in which position the occupant can easily enter the vehicle, to an occupant restraining position without any deliberate or manipulative occupant effort upon the apparatus itself.

803 Having belt retractor mounted on vehicle closure:
This subclass is indented under subclass 802. Apparatus including a take-up device mounted on or in a vehicle closure member (e.g., a vehicle door) to withdraw or take-up at least a portion of the straplike member onto or into the closure member.

804 Having belt connected to member slidable in a vehicle-mounted track:
Apparatus under 802 wherein the vehicle is provided with a trackway and the straplike member is connected to a slide member movable along the trackway such that the slide member slides in one direction to move the straplike member to an easy-enter position and slides in the opposite direction to move the straplike member to an occupant restraining position.

SEE OR SEARCH THIS CLASS, SUBCLASS:
801.2, for safety belt or harness having an adjustable anchor means.

805 With energy absorber:
Apparatus under subclasses 801.1+ wherein the straplike member is provided with means to cushion, soften, or neutralize the shock or strain on the occupant's body as the occupant is forced against the restraint upon sudden deceleration or impact.

806 Inertia responsive locking or tightening of belt or harness:
Apparatus under subclasses 801.1+ wherein the straplike member allows at least some limited movement of the occupant's body relative to his seat during normal operation of the vehicle and includes means, responsive to a sudden deceleration or impact of the vehicle, to either (a) lock the straplike member against extension thereof by the occupant's body as the occupant is forced against the straplike member so as to restrain the occupant to his seat or (b) tighten the straplike member by means of a takeup device about the occupant's body so as to restrain the occupant to his seat.

807 Retractable:
Apparatus under subclasses 801.1+ wherein the straplike member is connected to a take-up device to withdraw or take-up at least a portion of the straplike member to a stowed or out-of-way position.

SEE OR SEARCH CLASS:
242, Winding, Tensioning, or Guiding, subclasses 370+ for a reeling device on which strap material can be wound.

808 Shoulder belt or harness:
Apparatus under subclasses 801.1+ wherein the straplike member is engageable with and restrains the upper portion of the vehicle occupant's body.

SEE OR SEARCH THIS CLASS, SUBCLASS:
801.2, for safety belt or harness having an adjustable anchor means.

809 SKI OR SKATE APPLIANCE OR ATTACHMENT:
This subclass is indented under the class definition. Device especially designed to be (a) useable with or as an attachment for skates or skis,

or (b) to be used by a skater or skier while pursuing a skating or skiing activity.

(1) Note. This subclass takes supports connected with the skates and those held by hand in the nature of ski poles. Self-sustaining frame devices which aid in the support of the weight of the person are regarded as amusement or exercise devices and are classified in either Class 472 or Class 482 as indicated by the search note below.

(2) Note. "Skates" include ice skates and roller skates.

SEE OR SEARCH THIS CLASS, SUBCLASS:

604, for an attachment for a ski which engages the snow to prevent slip or to brake the movement of the ski; and subclass 611 for ski-to-boot connecting means.

SEE OR SEARCH CLASS:

2, Apparel, subclasses 16+ for devices for protecting the hands of skiers in gripping tow cables.

104, Railways, subclasses 173+ particularly subclasses 178, 180, and 202+, for towing cables for skiers and for devices for gripping ski tow cables.

401, Coating Implements With Material Supply, subclass 19 for diverse coating tools including solid material for rubbing contact.

441, Buoys, Rafts, and Aquatic Devices, subclass 68 for water skis.

472, Amusement Devices, particularly subclasses 14+ for an occupant propelled roundabout used as a skater support.

482, Exercise Devices, subclasses 51+ for an exercise device involving user translation, e.g., skiing, skating, etc., or physical simulation thereof, particularly subclass 70 for an exercise device which may simulate Nordic skiing and subclass 71 for an exercise device related to conditioning or developing a muscle related to Alpine skiing.

810 Wind sail for propelling or braking skier or skater:

This subclass is indented under subclass 809. Device comprising a means having a relatively large area which a skier or skater may present to the wind either for the purpose of propulsion thereby or as a motion retardation means.

(1) Note. The sail may be carried by the skier or skater or it may be attached to the skater or ski.

811 Ice or roller skate boot attachment (e.g., cover, protector, etc.):

This subclass is indented under subclass 809. Device adapted to be attached or applied to a boot or shoe used for ice or roller skating.

(1) Note. These devices include warmers, scuff preventing means, etc.

SEE OR SEARCH CLASS:

36, Boots, Shoes, and Leggings, subclasses 7.1+ for overshoes.

812 Seat supported by ski pole:

This subclass is indented under subclass 809. Device having means which may be supported by one or more ski poles and thereby form a surface upon which a person may sit either in a stationary position or while skiing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

826, for sticks or rods which support a skier or skater while straddling the same while in motion.

813 Ski or pole having means to scrape snow or ice from ski or boot:

This subclass is indented under subclass 809. Device wherein a ski pole or a ski itself is provided with a means which may be moved against a ski or boot having snow or ice adhering thereto for the purpose of removing said snow or ice.

814 Clamp, tie, or case for carrying or storage of skis:

This subclass is indented under subclass 809. Device having a means which may or may not be separably attached to a ski or to a plurality of skis for the purpose of (a) securing a plural-

ity of skis together in a manner whereby they may not be used for skiing, or (b) securing a ski or skis to a relatively stationary object for storage.

(1) Note. The means may be adapted additionally to be attached to a ski pole.

SEE OR SEARCH THIS CLASS, SUBCLASS:

818, for means securing a pair of skis together while being used for skiing for the purpose of training the skier to maintain the skis in a given relative relationship; and subclass 601 for skis which may have means built therein (i.e., magnets) to hold a pair together.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclass 315.1 for a bag or receptacle for skis.

211, Supports: Racks, subclass 70.5 for supports or racks for slender articles such as skis.

224, Package and Article Carriers, subclasses 309+, 323, 602, 917 for a body supported ski carrier, and 917.5 for a vehicle supported ski carrier.

294, Handling: Hand and Hoist-Line Implements, subclass 137 for handheld ski carrier having handles, especially subclass 147 for carrier adapted to support skis as well as other articles (e.g., boots, poles, etc.).

815 Prevents warp, maintains camber, or conforms to ski shape:

This subclass is indented under subclass 814. Device wherein said securing means is particularly shaped or is applicable to the ski at a point or points thereon whereby, when applied, the skis is warped to, or maintained in, a particularly desired configuration.

816 Combined:

This subclass is indented under subclass 809. Device combined with means which, if claimed per se, would be classified in another class, and wherein the other class is not a locus for said means combined with other devices, and which is not merely a part or subcombination of a ski, skate, or ski pole.

(1) Note. The means include a compass, light, liquid container, crutch, pyrotechnic device, marker, etc.

SEE OR SEARCH CLASS:

219, Electric Heating, subclass 201 for electric heaters combined with other devices.

817 Anti-crossover for skis:

This subclass is indented under subclass 809. Device in which a bar or deflecting means is provided on at least one of the skis worn by a skier to prevent one ski from riding over the top of the other ski while skiing.

818 Having means interconnecting skis for training:

This subclass is indented under subclass 809. Device having means whereby the skis of a pair, being used by skier, or secured together to establish a given positional relationship between said skis in order to assist the skier in learning to ski.

SEE OR SEARCH THIS CLASS, SUBCLASS:

814+, for clamping means for securing skis together or to other objects for nonuse purposes.

845+, for skis used to form runners of a runner-equipped vehicle (i.e., sled).

SEE OR SEARCH CLASS:

441, Buoys, Rafts, and Aquatic Devices, subclass 73 for water skis having means to secure a pair together for training purposes.

819 Ski pole:

This subclass is indented under subclass 809. Device being an elongated means to be carried by the hand of and used to assist in the stabilization movement or braking of a skater or skier.

820 Having means to interconnect with another pole:

This subclass is indented under subclass 819. Device having means on at least one of a pair of elongated means whereby a plurality of said means may be secured together for carrying or for storage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

814, for clamps which secure a plurality of skis together for storage and which may simultaneously secure a ski pole thereto.

821 Hand grip:

This subclass is indented under subclass 819. Device wherein said elongated means is provided with a means adapted particularly to be engaged by the user's hand or wrist.

822 Having quick release means:

This subclass is indented under subclass 821. Device wherein the hand or wrist engagable means is attached to the elongated means and is adapted to detach itself from the elongated means in an emergency when the force tending toward separation exceeds a predetermined amount.

823 Adjustable length (e.g., retractable tip):

This subclass is indented under subclass 819. Device in which the length of the elongated means may be changed either so that it may be made to penetrate the snow or ice more readily or so that it is more accommodating to the height of the user.

SEE OR SEARCH THIS CLASS, SUBCLASS:

809, for ski poles which may be collapsed to a nonuseable condition but which is not adjustable in length when in the useable condition.

SEE OR SEARCH CLASS:

403, Joints and Connections, appropriate subclass for an elongated member having means whereby its length may be adjusted.

824 Ring or basket:

This subclass is indented under subclass 819. Device having dishlike means having an axis of rotation which is secured to or forms a part of the elongated means along said axis to offer resistance against penetration of snow or ice by said elongated means.

825 Scabbards for ice or roller skates:

This subclass is indented under subclass 809. Device comprising a cover to protect an ice skate runner or the wheel of a roller skate.

SEE OR SEARCH CLASS:

224, Package and Article Carriers, appropriate subclasses for body and belt carriers for skates.

294, Handling: Hand and Hoist-Line Implements, subclass 137 for hand carriers for skates.

826 Riding stick:

This subclass is indented under subclass 809. Device comprising a stick or rod to be straddled by a skater or skier to at least partially support the skater or skier while in motion, said stick or rod may be provided with a ground-engaging roller or runner at one end thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

812, for ski poles having seat means supported thereby upon which a person may sit.

827 SIMULATIONS OF THE VELOCIPEDE TYPE:

This subclass is indented under the class definition. Vehicles in which some object is simulated.

(1) Note. This group includes both those vehicles which have positive occupant propelling means and those which are adapted to be pushed along by the occupant. Also, vehicles which include a simulation and are propelled by a walking (nonoccupant) attendant are included herein.

(2) Note. Simulations comprise both the forms which are claimed specifically as figures having bodies, heads, legs, ears, etc., or as having equipment such as saddles, stirrups, reins, etc., and those disclosed simulations having claimed features which necessarily import or require structure or arrangements not found in nonsimulation type vehicles. Examples of such features are steering or driving mechanisms housed in bodies of

substantial depth or thickness, or arranged to by-pass or accommodate figure parts not claimed as such but having no useful place in the conventional vehicle, as projecting heads or feet not used for support. Automobile simulations for subclasses 827 and 828 comprise body and running gear combinations having structure, the chief purpose of which is to render the vehicle attractive to children by imitating features characteristic of automobiles, as sound effects, simulations of brakes, headlights, radiators, etc., hoods, cowls, rear decks or fenders. A body comprising a flat board claimed as having the outline of an automobile is considered a simulation. Vehicles have not been classified herein on a purely disclosure basis except as an alternative to placing the patent in subclass 1 of this class.

SEE OR SEARCH THIS CLASS, SUBCLASS:

87.01+, for nonsimulation type vehicles having neither power means nor positive occupant propelling, but adapted to coast or be pushed along by the occupant.

200+, for nonsimulating type vehicles having positive occupant propelling means, and for occupant propelled vehicles having mere figurehead steering bar or shaft where no specific structure of the head is claimed, as reins, jaws, etc.

SEE OR SEARCH CLASS:

446, Amusement Devices: Toys, appropriate subclasses for a wheeled toy which is a simulation of something. A simulation for Class 280 is distinguished from a Class 446 Toy, in that the device 1) must have structure enabling operation in a mode consistent with typical vehicular activity, and 2) must be capable of supporting, and as disclosed intended to carry, a rider.

828 Occupant propelled:

This subclass is indented under subclass 827. Vehicles of the type in which there is provided some positive means adapting the vehicle to be propelled by the occupant.

(1) Note. This subclass does not include those adapted to be pushed along by the occupant.

SEE OR SEARCH THIS CLASS, SUBCLASS:

12.1+, and 200+, for other vehicles with occupant propelling means.

829 Boat:

This subclass is indented under subclass 828. Vehicles in which the object simulated is a boat.

830 TANK OR BOILER:

This subclass is indented under the class definition. Vehicles where the frame is specially adapted to carry a boiler or tank.

SEE OR SEARCH CLASS:

137, Fluid Handling, subclasses 255+ for flow control between tanks and subclasses 899+ for fluid handling in vehicles.

180, Motor Vehicles, subclasses 36+ for a motor vehicle of the steam traction engine type; subclass 69.4 for a tank for a vehicle where the motor is positively recited; subclasses 303+ for a motor vehicle, generally, having means to generate steam and a motor for utilizing the steam to propel the vehicle; and subclass 310 for a motor vehicle of the kind described for subclass 303, but wherein the vehicle's motor is not claimed; also, see subclass 225 for a motor vehicle having a wheel arrangement comprising two wheels in tandem relationship and wherein an element of the vehicle's frame, or a fender of the vehicle, constitutes also either an exhaust passageway or a fuel reservoir.

220, Receptacles, subclass 18 for tanks with no particular vehicle structure claimed.

410, Freight Accommodation on Freight Carrier, subclass 68 for a land vehicle freight carrier for transporting containers of fluid or bulk material.

831 Tank forms load support:
This subclass is indented under subclass 830. Vehicles wherein the tank is configured to support other loads on the vehicle.

832 Insulated tank walls:
This subclass is indented under subclass 830. Vehicles wherein the tank walls have special provisions to deter the passage of heat through the walls by interposition of an appropriate insulator.

833 Saddle type; vehicle frame straddling:
This subclass is indented under subclass 830. Vehicles wherein the fluid is contained in two separate tanks, one on each side of the vehicle.

(1) Note. The separate tanks may be directly interconnected structurally or indirectly by the vehicle frame.

834 Service tank:
This subclass is indented under subclass 830. Vehicles where the tank contains a fluid for use by the prime mover to produce propulsion.

835 Cycle type:
This subclass is indented under subclass 834. Vehicles wherein the service tank is attached to a vehicle of the type where the occupant rides astride of the frame.

836 Ground engaging or rolling wheel type:
This subclass is indented under subclass 830. Vehicles wherein the tank or boiler itself forms a ground contacting means which aids in the movement of the vehicle.

837 Semitrailer tank vehicle:
This subclass is indented under subclass 830. Vehicles provided with ground engaging means at one end only, the other end being adapted to be attached to a leading vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
838, for tanks mounted on a common frame with the cab and power plant.
839, for tanks mounted on stable trailers.

838 Tank truck:
This subclass is indented under subclass 830. Vehicles wherein the external walls of the tank define the exterior surface of the vehicle and the power plant, cab and tank are all mounted on a common frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:
837, for tanks mounted on a semitrailer.
839, for tanks mounted on stable trailers.

839 Trailer tank vehicle:
This subclass is indented under subclass 830. Vehicles having forward and rearward ground engaging means and a draft device.

SEE OR SEARCH THIS CLASS, SUBCLASS:
837, for tanks mounted on a semitrailer.
838, for tanks mounted on a common frame with the cab and power plant.

841 SKATES:
This subclass is indented under the class definition. Devices to be secured to the feet of the rider whereby he may propel himself over land, ice or snow and commonly called skates.

SEE OR SEARCH THIS CLASS, SUBCLASS:
7.13, for convertible skates.

842 Ski simulators:
This subclass is indented under subclass 841. Devices intended to simulate gliding over snow when used on dry land.

843 Ball type roller skates:
This subclass is indented under subclass 841. Devices where the ground contacting running gear is in the form of spherical members.

844 Endless tread skates:
This subclass is indented under subclass 841. Devices where the ground contacting running gear is in the form of a continuous band.

SEE OR SEARCH CLASS:
305, Wheel Substitutes for Land Vehicles, appropriate subclasses for endless treads, per se.

845 RUNNER VEHICLE:
This subclass is indented under the class definition. Vehicles provided with surfaces slidably engaging the supporting-surface over which the vehicle moves.

SEE OR SEARCH THIS CLASS, SUBCLASS:
8+, for vehicles having wheels and runners.
11.12+, for runner skates.

SEE OR SEARCH CLASS:
37, Excavating subclasses 196+ for roadway snow excavators and 411+ for sleded scoops.
172, Earth Working, subclasses 387+ for earth working apparatus with runners.
180, Motor Vehicles, subclasses 182+ for a motor vehicle which includes one or more ski-like or runner members.

847 Dust and mud guards:
This subclass is indented under subclass 727. Devices for protecting the occupants of a vehicle or the vehicle itself from the dust and mud incident to the use of that vehicle.

SEE OR SEARCH CLASS:
172, Earth Working, subclasses 508+ for earth working apparatus with a guard, shield or plant diverter.
296, Land Vehicles: Bodies and Tops, subclasses 84+ for windshields, per se.

848 Body attached:
This subclass is indented under subclass 847. Dust and mud guards secured to the body (load-carrier) of a vehicle.

849 Fender skirts:
This subclass is indented under subclass 848. Devices for closing the fender opening to the front or rear wheels.

(1) Note. The device may be arranged to move as the wheel turns for steering.

SEE OR SEARCH CLASS:
292, Closure Fasteners, Digest 1 for fender shield fasteners.

850 Scuff pads and covering shields for fenders:
This subclass is indented under subclass 848. Devices for protecting the interior or exterior fender surfaces.

851 Splash guards:
This subclass is indented under subclass 847. Devices comprising auxiliary guard members secured to a mudguard or adjacent rigid portion of a vehicle and disposed to the front or rear of the vehicle wheels to catch the splash therefrom.

852 For velocipedes:
This subclass is indented under subclass 851. Auxiliary devices to prevent water splash up from velocipede wheels.

853 Apertured fender wall with closures:
This subclass is indented under subclass 847. Fenders provided with lid type closures to enable access inside the fender to a gasoline filler tube or to the wheel itself for installing tire chains.

(1) Note. The lid may also be combined with license plate holders or tail lights.

SEE OR SEARCH CLASS:
292, Closure Fastener, appropriate subclasses for closure fasteners.
296, Land Vehicles: Bodies and Tops, subclass 1 for body accessories.

854 Fender braces:
This subclass is indented under subclass 847. Fenders provided with devices which secure and steady the fender to the frame.

855 Wheel scrapers and cleaners:
This subclass is indented under subclass 150. Devices , for removing mud, stones, nails, or other attached substances, from the periphery of wheels, either by scraping, brushing, or otherwise removing the substances.

SEE OR SEARCH CLASS:
172, Earth Working, subclasses 558+ for cleaning means for earth working disks.

856 Wheel scrapers for dual wheels:
This subclass is indented under subclass 855. Devices for removing substances from paired wheels mounted on each end of an axle.

CROSS-REFERENCE ART COLLECTIONS

900 RUNNER VEHICLE ATTACHMENTS:
Collection of art relating to attachments for sleds including brakes, runner guides, etc.

901 ADAPTATION OF NONSPECIALIZED VEHICLES TO SEMITRAILER TRACTORS:
Collection of art related to standard vehicles which may be converted to act as a tractor for a semitrailer by the addition or rearrangement of coupling structure at or forward of the rear axle (i.e., fifth wheels placed in the bed of a pick up truck, hitches located in trunk or on roof of a passenger vehicle).

FOREIGN ART COLLECTIONS

The definitions for FOR 100-FOR 197 below correspond to the definitions of the abolished subclasses (6.1, 6.11, 6.12, 93, 94, 95.1, 96, 96.1, 96.3, 97, 109-111, 112.1, 112.2, 113-123, 125-138, 660-675, 688-726, 772, 840, and 846) under Class 280 from which these collections were formed. See the Foreign Art Collection schedule for specific correspondences. [**Note**: The titles and definitions for *indented* art collections include all the details of the one(s) that are hierarchically superior.]

FOR 100 BODY-LEVELING DEVICES:
Foreign art collection for vehicles comprising (a) means for keeping the body portion of a vehicle level responsive to a means sensing an actual or incipient nonlevel condition, or (b) an adjustable means extending between the running gear and the body of a vehicle which is operative to level the body.

FOR 101
Foreign art collection for a vehicle body-leveling device comprising means for keeping the body portion of a vehicle level responsive to a means sensing an actual or incipient nonlevel condition.

FOR 102
Foreign art collection for a vehicle body leveling device comprising an actuator and interconnected means extending between the running gear and the body for moving ground engaging means vertically oppositely with respect to the body to level the body.

FOR 103 Using hydraulic motor:
Foreign art collection for vehicles body leveling device in which the ultimate source of power to actuate the leveling is hydraulic fluid, typically in a piston cylinder motor.

FOR 104 With cornering tipping deterrent:
Foreign art collection for apparatus comprising means for (a) counteracting external forces tending to overturn the vehicle, or (b) at least improve the turning characteristics of a vehicle during travel in a curved path.

FOR 105
Foreign art collection for vehicles in which each steered supporting-wheel has its individual axle.

FOR 106
Foreign art collection for devices provided with means tending to return the steering-wheels to their straight-line positions when moved therefrom.

FOR 107 Link connected:
Foreign art collection for vehicles in which the stub axles are joined by elongated rigid elements for unison steering movement.

FOR 108
Foreign art collection for devices in which the steering gear includes a rotary shaft and gearing.

FOR 109 Idler arm steering linkage:
Foreign art collection for devices in which the linkage includes a center link moved laterally by the steering gear arm attached at one end and an additional pivotal arm attached between the opposite center link end and the frame or chassis.

FOR 110
Foreign art collection for devices having means for mounting a steering stub-axle relative to its support. This mounting may also

have in addition to the necessary pivoted movement other relative movements of the axle and its support.

FOR 111

Foreign art collection for stub axle mounts having one or more springs located between the axle and load carrier or vehicle frame, to cushion the movements of the axle.

FOR 112

Foreign art collection for suspensions provided with manual means to adjust the caster and/or camber adjustment of the front wheel.

FOR 113

Foreign art collection for suspension means comprising two or more diverse or different spring types, e.g., leaf and coil.

FOR 114

Foreign art collection for suspension means combined with a lever or rod-like member or members designed to stabilize one or both of the front wheels.

FOR 115

Foreign art collection for suspension means wherein the spring is of the torsion type, providing its flexibility about its own longitudinal axis.

FOR 116

Foreign art collection for devices wherein the torsion spring serves to stabilize one or both of the steerable wheels, such stabilization tending to force the plane of the wheels into a position perpendicular to the ground surface.

FOR 117

Foreign art collection for devices wherein the spring is in the shape of a helix or coil.

FOR 118

Foreign art collection for devices wherein the coil spring is physically located above the uppermost of plural lever arms.

FOR 119

Foreign art collection for devices wherein the coil spring is mounted on a strut or rod which rotates about its longitudinal axes during the steering act, such strut being connected at its lower end to a single control lever or arm. Such constructions are known in the art as “MacPherson-type” suspensions.

FOR 120

Foreign art collection for suspension means wherein the spring is made up of one or more flat, elongated flexible el ments commonly known as leaf springs.

FOR 121

Foreign art collection for suspension means wherein the spring is in the shape of a helix or coil.

FOR 122

Foreign art collection for suspension means wherein the spring is made of rubber or rubber-like material.

FOR 123

Foreign art collection for suspension means comprising one or more fluid (liquid or gas) springs.

FOR 124

Foreign art collection for suspension means wherein the claims are drawn to the structure of elements of the suspension system or joints therebetween.

FOR 125

Foreign art collection for devices wherein the structural feature claimed is of the ball joint type.

FOR 126

Foreign art collection for devices wherein the structure of the suspension system provides a spatial or geometric relationship between the various parts, for example, the relative inclination between the control arm and some other structural part.

FOR 127

Foreign art collection for devices where the axis of the stub-axle pivot lies in the plane of the wheel.

FOR 128

Foreign art collection for vehicles having a supporting wheel axle which swings about a vertical pivot.

FOR 129

Foreign art collection for vehicles in which one axle is mounted for pivotal swinging movement about a vertical axis and rocking movement about a horizontal axis normal to its length.

FOR 130

Foreign art collection for vehicles provided with springs between the wheels and the load-carrier.

FOR 131

Foreign art collection for vehicles so constructed that the axles may rock relatively to each other in vertical planes.

FOR 132 Spring:

Foreign art collection for vehicles provided with resilient members between the wheels and the load-carrier.

FOR 133 Roll-responsive rocking axles for body banking:

Foreign art collection for vehicles where the axles pivot in a vertical plane in response to rotation of the body about a longitudinal axis to angle the body into a turn.

FOR 134

Foreign art collection for vehicles having one axle mounted for pivotal swinging movement about a vertical axis.

FOR 135

Foreign art collection for vehicles in which each two-wheel axle and its superposed mounting form a substantially complete and independent running-gear unit. Ordinarily no reaches are used to connect the two though they may be employed. Draft attachments are usually involved.

FOR 136

Foreign art collection for vehicles provided with springs between the wheels and the load-carrier.

FOR 137

Foreign art collection for vehicles provided with means for attaching shafts, poles, or the like for draft purposes.

FOR 138

Foreign art collection for vehicles in which the vertical axis about which the pivotal axle swings is offset from its longitudinal axis.

FOR 139

Foreign art collection for vehicles provided with springs between the wheels and the load-carrier.

FOR 140

Foreign art collection for vehicles in which all the springs are leaf-springs, and they extend longitudinally, or substantially so, of the vehicle.

FOR 141

Foreign art collection for vehicles provided with springs between the wheels and the load-carrier.

FOR 142

Foreign art collection for vehicles in which the springs are of the leaf type.

FOR 143

Foreign art collection for vehicles in which all the springs extend longitudinally, or substantially so, of the vehicle.

FOR 144

Foreign art collection for vehicles in which all the springs extend laterally of the vehicle.

FOR 145

Foreign art collection for vehicles provided with a spring or spring system between the wheels and load carrier or vehicle frame.

FOR 146

Foreign art collection for suspensions including means to prevent the vehicle from tipping or leaning while rounding a curve.

FOR 147

Foreign art collection for suspensions wherein the suspended wheel is totally independent in both control and movement from all other wheels.

FOR 148

Foreign art collection for suspensions wherein the suspended wheel is a steerable wheel.

FOR 149

Foreign art collection for steerable wheels suspended by spring means comprising two or more diverse or different spring types, e.g., leaf and coil.

FOR 150

Foreign art collection for steerable wheels suspended by fluid spring suspension means.

FOR 151

Foreign art collection for steerable wheels suspended by leaf spring suspension means.

FOR 152

Foreign art collection for steerable wheels suspended by torsion spring suspension means.

FOR 153

Foreign art collection for steerable wheels suspended by coil spring suspension means.

FOR 154

Foreign art collection for independent suspension means comprising two or more diverse or different spring types, e.g., leaf and coil.

FOR 155

Foreign art collection for independent suspension means comprising one or more fluid type (liquid or gas) springs.

FOR 156

Foreign art collection for independent suspension means comprising one or more leaf type springs.

FOR 157

Foreign art collection for independent suspension means comprising one or more torsion type springs.

FOR 158

Foreign art collection for independent suspension means comprising one or more coil type springs.

FOR 159

Foreign art collection for suspension means comprising one or more fluid type (liquid or gas) springs.

FOR 160

Foreign art collection for fluid suspension means provided with structure to prevent or reduce (a) vehicle nose-dive (front end depression) caused by rapid vehicle deceleration and/or (b) vehicle squat (rear end depression) caused by rapid vehicle acceleration.

FOR 161

Foreign art collection for fluid suspension means provided with structure to raise or lower a vehicle wheel from or to contact with the road surface.

FOR 162

Foreign art collection for fluid suspension means of a type usually found in military tanks or similar tracked vehicles wherein the actual spring structure is encased in an “arm” structure, one end of the “arm” being pivoted to the vehicle body, the other end being in engagement with the track.

FOR 163

Foreign art collection for fluid suspension means wherein the amount of fluid pressure available within the fluid spring is controlled by the application of a vacuum or negative pressure. The vacuum source is usually, but not necessarily, the vehicle engine.

FOR 164

Foreign art collection for fluid suspension means having an electric control means for adjusting the rigidity of the suspension means, the height of the vehicle body with respect to the ground surface or the distance between the wheel and the vehicle body.

FOR 165

Foreign art collection for fluid suspension means wherein (a) each individual spring means utilized both liquid and gas in its

operation, or (b) a fluid spring and a gas spring are connected together in such a manner as to operate as one.

FOR 166

Foreign art collection for fluid suspension means wherein the fluid is a liquid.

FOR 167

Foreign art collection for hydraulic suspension means working in unison or combined with nonfluid type springs.

FOR 168

Foreign art collection for fluid suspension means wherein the fluid is gas.

FOR 169

Foreign art collection for pneumatic suspension means working in unison or combined with nonfluid type springs.

FOR 170

Foreign art collection for pneumatic suspension means having a linkage or lever means which is attached at one end to the load carrying position or vehicle frame and which is attached at the other end to pneumatic suspension means, the purpose of which being to stabilize or support the pneumatic suspension means.

FOR 171

Foreign art collection for fluid suspension means wherein the main thrust of the claimed disclosure is in a specific valve or valving arrangement.

FOR 172

Foreign art collection for suspension means comprising two or more diverse or different spring types, e.g., leaf and coil.

FOR 173

Foreign art collection for suspension means wherein the suspension means comprises rubber spring means.

FOR 174

Foreign art collection for rubber suspension means wherein the suspension means is a torsion bar or spring means.

FOR 175

Foreign art collection for suspension means wherein the suspension means comprises leaf spring means.

FOR 176

Foreign art collection for leaf spring suspension means wherein the leaf spring lies in a plane which is at right angles to the plane in which the suspended wheel lies.

FOR 177

Foreign art collection for leaf spring suspension means wherein the leaf spring consists of a single leaf.

FOR 178

Foreign art collection for suspension means wherein the suspension means comprises a torsion bar or spring means.

FOR 179

Foreign art collection for torsion suspension means wherein the torsion bar or spring is in the shape of a helix or coil.

FOR 180

Foreign art collection for torsion suspension means wherein the torsion bar or spring means lies in a plane which is at right angles to the plane in which the suspended wheel lies.

FOR 181

Foreign art collection for suspension means wherein the spring is in the shape of a helix or coil.

FOR 182

Foreign art collection for coil suspension means having a linkage or lever means which is attached at one end to the load carrying portion of the vehicle or vehicle frame and which is attached at the other end to the coil suspension means, the purpose of which being to stabilize or support the coil suspension means.

FOR 183

Foreign art collection for coil suspension means wherein the lever stabilizer or support means lies in a plane which is at right angles to the plane in which the suspended wheel lies.

FOR 184

Foreign art collection for vehicles having mounts for axles allowing them to swing about a vertical axis.

FOR 185

Foreign art collection for devices in which the axle may rock about a horizontal axis normal to its length.

FOR 186

Foreign art collection for devices in which the axle and its mounting form a substantially complete and independent running-gear unit. Ordinarily no reaches are used to connect this axle or mount with another, though they may be so employed. Draft attachments are usually involved.

FOR 187

Foreign art collection for devices provided with springs between the wheels and the load-carrier.

FOR 188

Foreign art collection for devices provided with springs between the wheels and load-carrier.

FOR 189

Foreign art collection for devices in which the axle and its superposed mounting form a substantially complete and independent running gear unit. Ordinarily no reaches are used to connect this axle or mount to another, though they may be employed. Draft attachments are usually involved.

FOR 190

Foreign art collection for devices provided with springs between the wheels and the load-carrier.

FOR 191

Foreign art collection for devices provided with means for attaching shafts, poles or the like for draft purposes.

FOR 192

Foreign art collection for devices having a vertical axis about which the axle swings, this axis being offset from its longitudinal axis.

FOR 193

Foreign art collection for devices provided with springs between the wheels and load-carrier.

FOR 194

Foreign art collection for devices in which all the springs are leaf-springs, and they extend longitudinally, or substantially so, of the vehicle.

FOR 195

Foreign art collection for devices provided with springs between the wheels and the load-carrier.

FOR 196

Foreign art collection for devices in which all the springs are leaf-springs, and they extend longitudinally, or substantially so, of the vehicle.

FOR 197

Foreign art collection for devices having means for preventing rattling between cooperating parts. They are usually resilient means for holding the two rubbing members of the fifth-wheel in close contact.

END